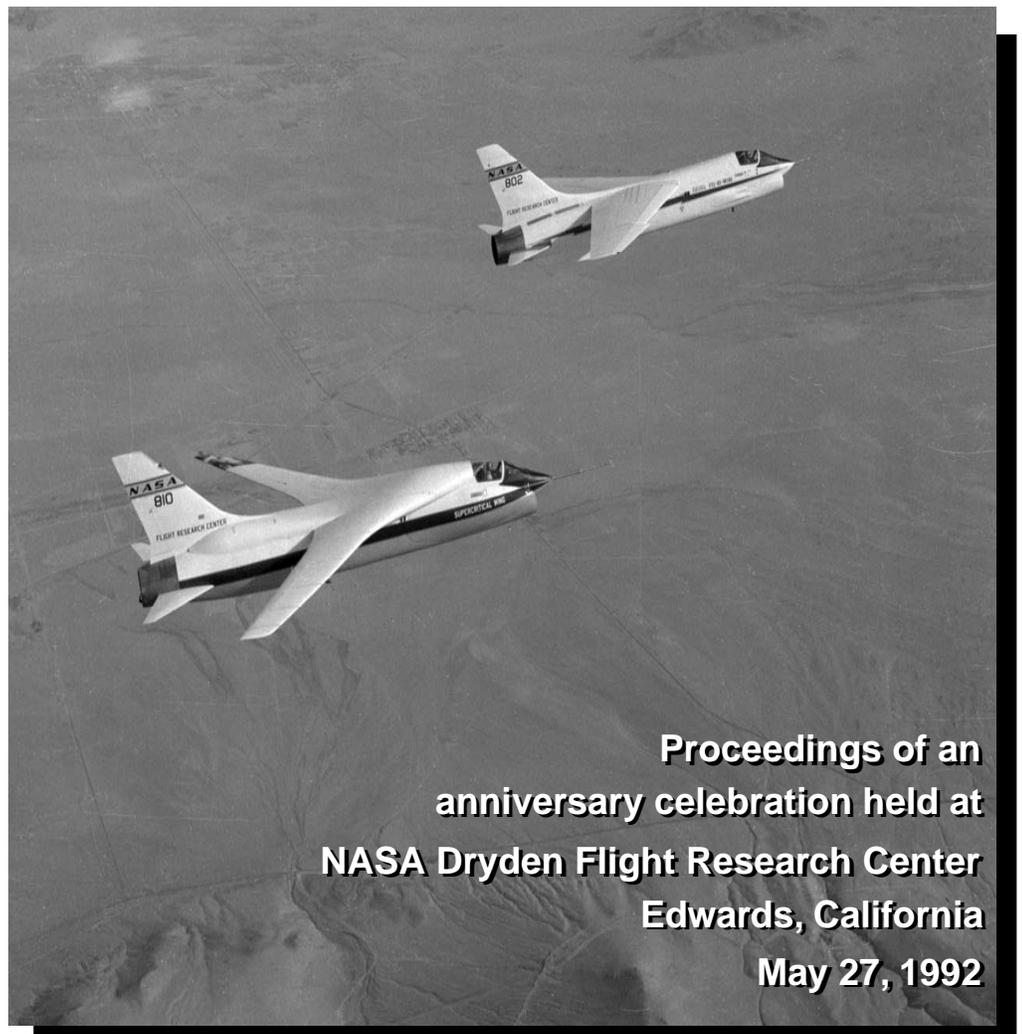


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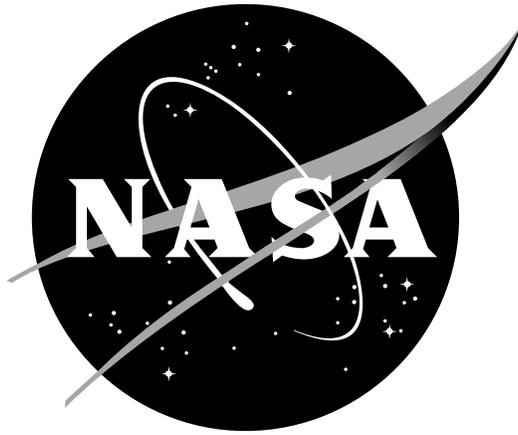


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PREFACE

The F-8 Digital Fly-By-Wire and Supercritical Wing flight research programs resulted in a large number of formal NASA reports, American Institute of Aeronautics and Astronautics (AIAA) conference papers, and many related documents from industry, government, and academic sources. As a convenience to readers of these proceedings, separate bibliographical appendices for each program are included in this Volume II.

Many of these references are available to readers with access to NASA via the World Wide Web at:

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APPENDIX B

DIGITAL FLY-BY-WIRE/CONTROL BIBLIOGRAPHY

A70-15149

Schumann, H.G. and R. Staufenbiel, "The Development of an Integrated Flight Guidance and Control System for Modern High-Performance Aircraft," DGLR-69-41, Jahrestagung, Bremen, West Germany, Sept. 1969.

A71-10825

Hendrick R.C. and J.P. Sutherland, "Electronic Flight Control is Getting Set to Take Off," *Electronics*, Vol. 43, Nov. 1970, pp. 87-92.

A71-31079

Sanford, R.W., P.R. Venuti, and D. Wood, "HLH Primary Flight Control System Design," AHS 27th Annual National V/STOL Forum, Washington, D.C., May 19-21, 1971. AHS preprint 503.

A71-37187

Ingalls, E.L. and R.R. Shoquist, "A GN and C Redundancy Management Concept for Space Shuttle Vehicles, AIAA 71-946, Guidance, Control and Flight Mechanics Conference, Hempstead, NY, Aug. 16-18, 1971.

A71-37200

Bumby, E.A., "Payoffs and Problems of Fly-By-Wire Control Systems," AIAA 71-959, Guidance, Control, and Flight Mechanics Conference, Hempstead, N.Y., Aug. 16-18, 1971.

A71-39150

Lorenzetti, R.C. and V.R. Schmitt, "Advanced Flight Control Systems Power-By-Wire and Fly-By-Wire," Vickers 20th Aerospace Fluid Power Conference, Detroit, MI, Oct. 26-27, 1970, pp. 1-12, VIII-13 to VIII-16.

A72-22152

Himmler, C.R., "Multiplex Electrohydraulic System for Fly-By-Wire Actuators, with Majority Voting and Pressure Logic," 2nd Fluid Power Symposium, University of Surrey, Guildford, Surrey, England, Jan. 4-7, 1971. British Hydromechanics Research Association, 1971, pp. A5-73 to A5-88.

A72-30422

Mitchell, R.H. and R.L. Warren, "Electro-Ram - a New Actuator Concept for Fly-By-Wire," *Signal*, Vol. 26, June 1972, pp. 65-67.

A72-35575

Kisslinger, R.L. and R.C. Lorenzetti, "The Fly-By-Wire Systems Approach to Aircraft Flying Qualities," NAECON '72, Dayton, OH, May 15-17, 1972, pp. 205-210.

A72-39117

Bumby, E.A., "Redundancy Management for Fly-By-Wire Systems," AIAA 72-884, Guidance and Control Conference, Stanford, CA, Aug. 14-16, 1972.

A72-39118

Emfinger, J. and J. Flannigan, "Fly-By-Wire Technology," AIAA 72-882, Guidance and Control Conference, Stanford, CA, Aug. 14-16, 1972.

A72-39119

Kisslinger, R.L. and G.J. Vetsch, "Synthesis and Analysis of a Fly-By-Wire Flight Control System for an F-4 Aircraft," AIAA 72-880, Guidance and Control Conference, Stanford, CA, Aug. 14-16, 1972.

A72-40060

Deets, Dwain A. and Kenneth J. Szalai, "Design and Flight Experience with a Digital Fly-By-Wire Control System using Apollo Guidance System Hardware on an F-8 Aircraft," AIAA 72-881, Guidance and Control Conference, Stanford, CA, Aug. 14-16, 1972.

A72-41068

Millard, D. J., "Fly-By-Wire Control System," *Aircraft Engineering*, Vol. 44, Aug. 1972, pp. 4, 5, 7.

A73-16662

Bennett, D.H. and R. P. Johannes, "Combat Capabilities and Versatility Through CCV," SAE 720854, National Aerospace Engineering and Manufacturing Meeting, San Diego, CA, Oct. 2-5, 1972.

A73-22177

Garrison, C.P., "Survivable Flight Control System," SETP 16th Annual Symposium, Beverly Hills, CA, Sept. 28-30, Vol. 11, No. 2, 1973, pp. 1-19.

A73-22180

Peterson, B.A., Gary E. Krier, and Calvin R. Jarvis, "Development and Flight Test of a Digital Fly-By-Wire F8," SETP 16th Symposium, Beverly Hills, CA, Sept. 28-30, 1972, Vol. 11, No. 2, 1973, pp. 57-71.

A73-26272

Schmitt, V.R. and J.K. Ramag, "Advanced Flight Control Systems—Power-By-Wire and Fly-By-Wire," 22nd Aerospace Fluid Power Conference, Troy, MI, Oct. 30-31, 1972.

A73-32475

Boulva, H., "System of Electric Control of Surveillance of the Control Surfaces of the Concorde," Electronics and Civil Aviation; International Conference, Paris, France, June 26-30, 1972, Vol. 1, *Editions Chiron*, 1972, pp. 554-563. In French.

A73-33080

Wiggins, D. A., "Fly-By-Wire Servo is Quad-Redundant," *Hydraulics and Pneumatics*, Vol. 26, May 1973, pp. 99-102.

A73-35062

Kilmer, F.G. and J.R. Sklaroff, "Redundance System Design and Flight Test Evaluation for the TAGS Digital Control System," AHS Preprint 721, 29th Annual National Forum, Washington, D.C., May 9-11, 1973.

A73-35084

Deardorff, J.C., A.L. Freisner, and N. Albion, "Flight Test Development of the Tactical Aircraft Guidance System," AHS Preprint 761, 29th Annual National Forum, Washington, D.C., May 9-11, 1973.

A73-35222

Sutton, M.L. and G.M. Soderlund, "The Application of Dedicated Processors to Digital Fly-By-Wire Flight Control Systems," IEEE NAECON 73, Dayton, OH, May 14–16, 1973, pp. 169–175.

A73-35223

Summers, R.R. and G.B. Lamont, "Application of the Aerospace Multiprocessor to the A-7D Flight Control System," IEEE NAECON 73, Dayton, OH, May 14–16, 1973, pp. 176–181.

A73-35225

Mrazek, J.G. and T.D. Lewis, "Flight Test and Demonstration Multiplexing in a Fly-By-Wire Flight Control System," IEEE NAECON 73, Dayton, OH, May 14–16, 1973, pp. 192–197.

A73-38785

Sklaroff, J.R., F.G. Kilmer, and H.A. Padinha, "Redundant System Design for Advanced Digital Flight Control," AIAA 73-846, Guidance and Control Conference, Key Biscayne, FL, Aug. 20–22, 1973.

A73-40027

Felleman, Philip G. "An Aircraft Digital Fly-By-Wire System," 29th Institute of Navigation Annual Meeting, St. Louis, MO, June 19–21, 1973.

A74-20120

Kaufman, H. and P. Berry, "Digital Adaptive Flight Controller Development," IEEE 4th Conference on Decision and Control, and 12th Symposium on Adaptive Processes, San Diego, CA, Dec. 5–7, 1973, pp. 780–783.

A74-20755

Jarvis, Calvin R., "A Digital Fly-By-Wire Technology Program Using an F-8C Test Aircraft," AIAA 74-28, 12th Aerospace Sciences Meeting, Washington, D.C., Jan. 30–Feb.1, 1974.

A74-27252

Blatt, P. E., "Flight Control System Advances for Near-Future Military Aircraft," SAE 730987, Committee A-6 Meeting, San Diego, CA, Oct. 24, 1973.

A74-27253

Peppler, T.P., "Fluid Power and Control Requirements for the U.S. Army Heavy Lift Helicopter," SAE 730988, Committee A-6 Meeting, San Diego, CA, Oct. 24, 1973.

A74-31474

Boulden, L.L., "Hydraulic Muscle with Electrical Controls," *Machine Design*, Vol. 46, May 30, 1974, pp. 57–61.

A74-34842

Hunter, J.E., "Survivable Flight Control System Fly-By-Wire Flight Testing," Flight Testing Today - 1973; SFTE 4th National Symposium, Las Vegas, NV, Aug. 21–23, 1973.

A74-35629

Fraser, D.C. and Philip G. Felleman, "Digital Fly-By-Wire—Computers Lead the Way," *Astronautics and Aeronautics*, Vol. 12, July–Aug. 1974, pp. 24–32.

A74-35743

Morisset, J., "Fly-By-Wire Controls are on the Way," *Telonde*, Dec. 1973, pp. 7–9. Translation.

A74-37855

Abrams, C.R. and W.D. Weinstein, "A New Concept for Angular Rate Flight Control Sensors," AIAA 74-868, Mechanics and Control of Flight Conference, Anaheim, CA, Aug. 5-9, 1974.

A74-37868

Alag, S. and H. Kaufman, "Digital Adaptive Model Following Flight Control," AIAA 74-886, Mechanics and Control of Flight Conference, Anaheim, CA, Aug. 5-9, 1974.

A74-37893

Motyka, P.R., "A Classical Approach to the Design of Model-Following Control Systems," AIAA 74-913, Mechanics and Control of Flight Conference, Anaheim, CA, Aug. 5-9, 1974.

A74-38533

Mrazek, J.G. and D.P. Rubertus, "Considerations in the Design of a Digital Flight Control Function for a High Performance Aircraft," NAECON '74, Dayton, OH, May 13-15, 1974, pp. 186-193.

A74-38982

Lippay, A.L. and V. Vaidya, "A Controller for a Computer-Controlled Vehicle," Canadian Conference on Automatic Control, Fredericton, Canada, Sept. 24-25, 1973, pp. 10.4-1 to 10.4-17.

A74-39888

Ross, G.E., "Fly-By-Wire—What Does it Weigh" SAWE 1018, 33rd Society of Allied Weight Engineers Annual Conference, Fort Worth, TX, May 6-8, 1974.

A74-40953

Wise, C.E., "Turbofan of the Future," *Machine Design*, Vol. 46, Aug. 22, 1974, pp. 20, 21, 23-25.

A74-43903

Osder, S. and D. Lefebvre, "Fiber Optics and Flight Control Systems," IEEE 16th Electromagnetic Compatibility Symposium, San Francisco, CA, July 16-18, 1974.

A75-10018

Campbell, G.S., "A Response Criterion for Aircraft with Fly-By-Wire Control Systems," *Simulation*, Vol. 22, May 1974, pp. 145-148.

A75-12825

"Fly-By-Wire is Here," *Exxon Air World*, Vol. 26, No. 4, 1974, pp. 95-99.

A75-22940

Bennett, D.H., "F-4/CCV-Flight Tests of Advanced Technology," SAE 740861, National Aerospace Engineering and Manufacturing Meeting, San Diego, CA, Oct. 1-3, 1974.

A75-23423

Goniodskii, V.I., F.I. Sklianskii, and I.S. Shumilov, "Aircraft Control Surface Actuators," Moscow, 1974. In Russian.

A75-24345

Caddell, W.E., "Fly-By-Wire Delta-Canard Configurations Save Weight," SAWE SWR 3, 1st Society of Allied Weight Engineers Annual Southwestern Regional Meeting, Apple Valley, CA, Oct. 11, 1974.

Hendrick R.C. and C.D. Hill, "Self-Testing Digital Flight Control Applications," AIAA 75-568, Digital Avionics System Conference, Boston, MA, Apr. 2-4, 1975.

A75-26729

Allen, J.G., "Digital Computer Design Guidelines for a Full Authority Fly-by-Wire Flight Control System," AIAA 75-570, Digital Avionics System Conference, Boston, MA, Apr. 2-4, 1975.

A75-27367

Burns, B.R.A., "Fly-by-Wire and Control Configured Vehicles - Rewards and Risks," *Aeronautical Journal*, Vol. 79, Feb. 1975, pp. 51-58.

A75-37135

Alag, Gurbux and H. Kaufman, "Digital Adaptive Flight Control Design Using Single Stage Model Following Indices," IEEE 5th Conference on Decision and Control, and 13th Symposium on Adaptive Processes, Phoenix, AZ, Nov. 20-22, 1974, pp. 122-127.

A75-38262

Hunt, G.H., "Future Trends in Flight Control Systems," Royal Institute of Navigation and Institution of Electronic and Radio Engineers, Joint Meeting on Advances in Airborne Equipment for Navigation and Freight Control, London, England, Jan. 15, 1975. *J. of Navigation*, Vol. 28, July 1975, pp. 286-299.

A75-40475

Wise, C.E., "F-16 - First with Fly-by-Wire," *Machine Design*, Vol. 47, Aug. 7, 1975, pp.16-18, 20, 21.

A75-41631

Kuchta, B.J., "Use of Fly-by-Wire to Obtain Performance Improvements in a Delta-Canard Design," AIAA 75-1061, Guidance and Control Conference, Boston, MA, Aug. 20-22, 1975.

A75-41632

Broen, R.B., "Performance of Fault Tolerant Estimators in a Noisy Environment," AIAA 75-1062, Guidance and Control Conference, Boston, MA, Aug. 20-22, 1975.

A75-41651

Gran, R., H. Berman, M. Rossi, and D. Rothschild, "Digital Flight Control for Advanced Fighter Aircraft," AIAA 75-1086, Guidance and Control Conference, Boston, MA, Aug. 20-22, 1975.

A76-14438

Plumer, J.A., "Lightning Effects on the NASA F-8 Digital Fly-by-Wire Airplane," Conference on Lightning and Static Electricity, Royal Aeronautical Society, Abingdon, Oxon, England, Apr. 14-17, 1975.

A76-14580

McManus, B.L. and A.J. Niven, "Heavy-Lift Helicopter Primary Flight Control System," AHS 31st Annual National Forum, Washington, D.C., May 13-15, 1975.

A76-14601

Simon, D.R. and J.C. Savage, "Army Preliminary Evaluation of the HLH ATC Demonstrator Fly-by-Wire Flight Control System," AHS 31st Annual National Forum, Washington, DC, May 13-15, 1975.

A76-22282

Hooker, D.S. and G.S. Vetsch, "Digital FBW Flight Control and Related Displays," SAE 751041, National Aerospace Engineering and Manufacturing Meeting, Culver City, CA, Nov. 17-20, 1975.

A76-22283

Newberry, C.F., "Design Freedom Offered by Fly-by-Wire," SAE 751044, National Aerospace Engineering and Manufacturing Meeting, Culver City, CA, Nov. 17–20, 1975.

A76-22284

Livingston, E.C., "Fly-by-Wire Flight Control Considerations for Fighter Aircraft," SAE 751046, National Aerospace Engineering and Manufacturing Meeting, Culver City, CA, Nov.17–20, 1975.

A76-22290

Emfinger, J.E., "Act System Design for Reliability, Maintainability, and Redundancy Management," SAE 751052, National Aerospace Engineering and Manufacturing Meeting, Culver City, CA, Nov. 17–20, 1975.

A76-28872

Klinar, W.J., E.T. Kubiak, W.H. Peters, R.L. Saldana, E.E. Smith, Jr., and H.W. Stegall, "Space Shuttle Flight Control System," ISA 6th International Federation of Automatic Control, Triennial World Congress, Boston and Cambridge, MA, Aug. 24–30, 1975. Part 4, pp. 6.2 1–6.2 9.

A76-41453

Edinger, L.D., "The Space Shuttle Ascent Flight Control System," AIAA 76-1942, Guidance and Control Conference, San Diego, CA, Aug. 16–18, 1976. AIAA 1976, pp. 225–235.

A76-41461

Merkel, P.A. and R.A. Whitmoyer, "Development and Evaluation of Precision Control Modes for Fighter Aircraft," AIAA 76-1950, Guidance and Control Conference, San Diego, CA, Aug. 16–18, 1976. AIAA 1976, pp. 300–308.

A76-41463

Hartmann, Gary L. and C.A. Harvey, "Digital Adaptive Control Laws for the F-8," AIAA 76-1952, Guidance and Control Conference, San Diego, CA, Aug. 16–18, 1976. AIAA 1976, pp. 319–329.

A76-41482

Desai, M.N., J.C. Deckert, J.J. Deyst, A.S. Willsky, and E.Y. Chow, "Dual Redundant Sensor FDI Techniques Applied to the NASA F8C DFBW Aircraft," AIAA 76-1976, Guidance and Control Conference, San Diego, CA, Aug. 16–18, 1976. AIAA 1976, pp. 502–513.

A76-41491

Szalai, Kenneth J., Philip G. Felleman, Joseph Gera, and Richard D. Glover, "Design and Test Experience with a Triply Redundant Digital Fly-by-Wire Control System," AIAA 76-1911, Guidance and Control Conference, San Diego, CA, Aug. 16–18, 1976.

A76-41492

Gallagher, J.T. and I. Saworotnow, "Experience with Digital Flight Control Systems," AIAA 76-1914, Guidance and Control Conference, San Diego, CA, Aug.16–18, 1976.

A76-43173

Williams, B., "Digital Techniques for Aircraft Automatic Control Systems," *Aviation Review*, Aug. 1976, pp. 8–10.

A76-45415

Boudreau, J.A., "Integrated Flight Control System Design for CCV," AIAA 76-941, Aircraft Systems and Technology Meeting, Dallas, TX, Sept. 27–29, 1976.

A76-46075

Bangs, A.P., P.D. Liles, and T.L. Pearce, "Shuttle Avionics Verification and Integration Testing," IAF 76-186, 27th International Astronautical Congress, Anaheim, CA, Oct. 10–16, 1976.

A77-12429

Kaufman, H. and Gurbux Alag, "An Implementable Digital Adaptive Flight Controller Designed Using Stabilized Single Stage Algorithms," IEEE 6th Conference on Decision and Control, and 14th Symposium on Adaptive Processes, Houston, TX, Dec.10–12, 1975, pp. 231–236.

A77-20719

Lange, R.H., "Effects of Artificial Stability on Configuration Design," *Air Transportation for the 1980's*, College Park, MD,1976, pp. 265–316.

A77-21878

Meyer, W., "Realization Problems Concerning Reliable CCV Flight Guidance Systems," DGLR 76-243, Symposium CCV-Technologien, Munich, West Germany, Sept. 17, 1976. In German.

A77-26862

Pociluyko, S., B.L. McManus, and J.E. Gonsalves, "Helicopter Vulnerability Reduction, Fly-by-Wire Backup Demonstration," AHS 32nd Annual National Forum, Washington, DC, May 10–12, 1976, pp. 1022-1 to 1022-9.

A77-28802

Elliott, J.R., "NASA's Advanced Control Law Program for the F-8 Digital Fly-by-Wire Aircraft," IEEE Conference on Decision and Control and Symposium on Adaptive Processes, Clearwater, FL, Dec. 1–3, 1976, pp.1–5.

A77-28805

Montgomery, R.C. and H.J. Dunn, "A Moving-Window Parameter Adaptive Control System for the F8-DFBW Aircraft," IEEE 15th Conference on Decision and Control and Symposium on Adaptive Processes, Clearwater, FL, Dec. 1–3, 1976, pp. 15–22.

A77-28806

Hartmann, Gary L. and Gunter Stein, "Specific Failure Identification Algorithms for the F-8," IEEE 15th Conference on Decision and Control and Symposium on Adaptive Processes, Clearwater, FL, Dec. 1–3, 1976, pp. 29–31.

A77-28807

Deckert, J.C., M.N. Desai, J.J. Deyst, Jr., and A.S. Willsky, "A Reliable Dual-Redundant Sensor FDI System for the NASA F8C Aircraft," IEEE 15th Conference on Decision and Control and Symposium on Adaptive Processes, Clearwater, FL, Dec. 1–3, 1976, pp. 32–37.

A77-38461

Belcher, G. and P. Chapman, "Power Supplies for Full Time Fly-by-Wire Aircraft Control Systems," RAE Symposium on Avionics versus Electrics - Who Should Determine Future Power Supplies, London, England, Mar. 15, 1977.

A77-43353

Bangen, H.J., W. Hoffman, H. Seelmann, and H. Leyendecker, "Investigation of a Helicopter Manoeuver Demand System," 2nd European Rotorcraft and Powered Lift Aircraft Forum, Bueckeburg, West Germany, Sept. 20–22, 1976.

A78-12251

Abrams, C., W. Weinstein, and R. Solomon, "Navy Advanced Sensor Programs for Fly-by-Wire Aircraft," AIAA 77-1504, 2nd Digital Avionics Systems Conference, Los Angeles, CA, Nov. 2-4, 1977, pp.162-173.

A78-12252

Deckert, J.C., M.N. Desai, and J.J. Deyst, "Evaluation of the F-8 DFBW Analytic Redundancy Sensor FDI Algorithm Using Telemetry Data," AIAA 77-1506, 2nd Digital Avionics Systems Conference, Los Angeles, CA, Nov. 2-4, 1977, pp. 174-185.

A78-12253

Brown, S.R. and Kenneth J. Szalai, "Flight Experience with a Fail-Operational Digital Fly-by-Wire Control System," AIAA 77-1507, 2nd Digital Avionics Systems Conference, Los Angeles, CA, Nov. 2-4, 1977, pp. 186-199.

A78-12254

Vetsc, G.J., R.J. Landy, and D.B. Schaefer, "Digital Multimode Fly-by-Wire Flight Control System Design and Simulation Evaluation," AIAA 77-1508, 2nd Digital Avionics Systems Conference, Los Angeles, CA, Nov. 2-4, 1977, pp. 200-211.

A78-12357

Elliott, J.R., "NASA's Advanced Control Law Program for the F-8 Digital Fly-by-Wire Aircraft," *IEEE Transactions on Automatic Control*, Vol. AC-22, Oct. 1977, pp. 753-757.

A78-12358

Stein, Gunter, Gary L. Hartmann, and R.C. Hendrick, "Adaptive Control Laws for F-8 Flight Test," *IEEE Transactions on Automatic Control*, Vol. AC-22, Oct. 1977, pp. 758-dd767.

A78-12360

Alag, G. and H. Kaufman, "An Implementable Digital Adaptive Flight Controller Designed Using Stabilized Single-Stage Algorithms," *IEEE Transactions on Automatic Control*, Vol. AC-22, Oct. 1977, pp. 780-788.

A78-12361

Dunn, H.J. and R.C. Montgomery, "A Moving Window Parameter Adaptive Control System for the F8-DFBW Aircraft," *IEEE Transactions on Automatic Control*, Vol. AC-22, Oct. 1977, pp. 788-795.

A78-12362

Deckert, J.C., M.N. Desai, J.J. Deyst, and A.S. Willsky, "F-8 DFBW Sensor Failure Identification Using Analytic Redundancy," *IEEE Transactions on Automatic Control*, Vol. AC-22, Oct. 1977, pp. 795-803.

A78-15575

Lautner, D.E. and J.R. Perkins, "Electrical Load Management for Advanced Aircraft Electrical Systems," NAECON '77, Dayton, Ohio, May 17-19, 1977, pp. 194-202.

A78-15641

Donoghue, P.J., "System Description and Performance Characteristics of a Quad Redundant Strapdown Inertial Navigation and Flight Control System," NAECON '77, Dayton, Ohio, May 17-19, 1977, pp. 767-774.

A78-23861

Westermeier, T.F., "Redundancy Management of Digital Fly-by-Wire Systems," IEEE Joint Automatic Control Conference, Vol. 1, San Francisco, CA, June 22–24, 1977, pp. 272–277.

A78-29935

Collinson, R.P.G., "Fly-by-Wire Flight Control," *Aircraft Engineering*, Vol. 50, Feb. 1978, pp. 8–13.

A78-32651

Collinson, R.P.G., "The Role of Avionics in Modern Aircraft," *Electronics and Power*, Vol. 24, Apr. 1978, pp. 280–284.

A78-49860

Westermeier, T.F., "In-Line Monitoring of Digital Flight Control Computers," NAECON '78, Vol. 1, Dayton, Ohio, May 16–18, 1978, pp. 62–69.

A78-49861

Graves, G.L. and L. Andersson, "Laboratory Testing of Lightning and EMP Susceptibility of Avionic Systems," NAECON '78, Vol. 1, Dayton, Ohio, May 16–18, 1978, pp. 70–73.

A78-50185

Bosch, J.A. and P. Briggs, "Software Development for Fly-by-Wire Flight Control Systems," AIAA 78-1276, Guidance and Control Conference, Palo Alto, CA, Aug. 7–9, 1978, pp. 235–250.

A78-50186

Berman, H. and J. Boudreau, "Improved Combat Survivability for Fly-by-Wire Sensor Systems," AIAA 78-1277, Guidance and Control Conference, Palo Alto, CA, Aug. 7–9, 1978, pp. 251–263.

A78-50187

Westermeier, T.F., "Triplex Digital Fly-by-Wire Redundancy Management Techniques," AIAA 78-1279, Guidance and Control Conference, Palo Alto, CA, Aug. 7–9, 1978, pp. 264–271.

A78-50195

Montgomery, R.C., R. Mekel, and S. Nachmias, "A Learning Flight Control System for the F8-DFBW Aircraft," AIAA 78-1288, Guidance and Control Conference, Palo Alto, CA, Aug. 7–9, 1978, pp. 325–331.

A79-12534

Kudrna, J., "Active Control," *Zpravodaj VZLU*, No. 4, 1978, pp. 169–176. In Czech.

A79-14976

Deyst, J., J. Deckert, M. Desai, and A. Willsky, "Development and Testing of Advanced Redundancy Management Methods for the F-8 DFBW Aircraft," IEEE 16th Conference on Decision and Control, and Symposium on Adaptive Processes, and Special Symposium on Fuzzy Set Theory and Applications, New Orleans, LA, Dec. 7–9, 1977, Vol. 1, pp. 309–315.

A79-18141

McManus, B.L., "Fly-by-Wire for Vertical Lift," AHS 78-15, 34th Annual National Forum, Washington, D.C., May 15–17, 1978.

A79-20081

Hunt, G.H., "The Evolution of Fly-by-Wire Control Techniques in the UK," 11th International Council of the Aeronautical Sciences, Congress, Lisbon, Portugal, Sept. 10–16, 1978, Vol. 1, pp. 61–71.

A79-20117

Pelagatti, C., M. Bossard, and J. Irvoas, "Problems Raised by the Application of the Natural Stability Reduction Concept to Transport Aircraft," 11th International Council of the Aeronautical Sciences, Lisbon, Portugal, Sept. 10–16, 1978, Vol. 1, pp. 466–474.

A79-26530

Peer, Y., "Flight Testing the KFIR," 22nd Society of Experimental Test Pilots Symposium, Beverly Hills, CA, Sept. 27–30, 1978. *SFTE Technical Review*, Vol. 14, No. 2, 1979, pp. 26–37.

A79-38983

Mosca, V.G., C. Rabinowitz, and H. Kreamer, "Fault-Tolerant, High Reliability Electronic Engine Control System," AIAA 79-1202, 15th AIAA/SAE/ASME Joint Propulsion Conference, Las Vegas, NV, June 18–20, 1979.

A79-45357

Hartmann, Gary L., Gunter Stein, and Bruce G. Powers, "Flight Test Experience with an Adaptive Control System Using a Maximum Likelihood Parameter Estimation Technique," AIAA 79-1702, Guidance and Control Conference, Boulder, CO, Aug. 6–8, 1979, pp. 47–53.

A79-45400

Ammons, E.E., "F-16 Flight Control System Redundancy Concepts," AIAA 79-1771, Guidance and Control Conference, Boulder, CO, Aug. 6–8, 1979, pp. 484–490.

A79-48607

Straub, W.W., "A Highly Reliable Multiple Error Tolerant Microprocessor," NAECON 1979, Dayton, OH, May 15–17, 1979. Vol. 1, pp. 152–156.

A79-48622

Donley, S.T. and R.D. Solomon, "Flight Test Verification of the Asset System," NAECON 1979, Dayton, OH, May 15–17, 1979. Vol. 1, pp. 311–318.

A79-48623

Seat, J.C., G.E. Miller, and R.F. Stengel, "A Microprocessor System for Flight Control Research," NAECON 1979, Dayton, OH, May 15–17, 1979, Vol. 1, pp. 319–326.

A79-49079

Ferguson, S.W. and K.E. Builta, "Development of a Fly-by-Wire Elevator for the Bell Helicopter Textron 214ST," AHS 79-27, 35th Annual National Forum, Washington, DC, May 21–23, 1979.

A79-49344

Downing, D.R., W.H. Bryant, and R.F. Stengel, "NASA/Princeton Digital Avionics Flight Test Facility," IEEE/AIAA 3rd Digital Avionics Systems Conference, Fort Worth, TX, Nov. 6–8, 1979.

A79-50438

Clark, C.K., J.E. Walker, and J.K. Buckner, "The Evolution of the High-Angle-of-Attack Features of the F-16 Flight Control System," SFTE 9th Annual Why Flight Test Symposium, Arlington, TX, Oct. 4–6, 1978, pp. 17-1 to 17-21.

A79-53630

Jenney, G.D., "A Direct Drive Fly-by-Wire System," AHS Specialists Meeting on Helicopter Flight Controls, Arlington, TX, Oct. 11–13, 1978.

A79-53632

Goodman, J.R., "Optical Control Technology," AHS Specialists Meeting on Helicopter Flight Controls, Arlington, TX, Oct. 11–13, 1978.

A79-53634

Carlock, G., C.M. Gatlin, K.F. Guinn, and R.D. Borgeson, "Star Flight Control System," AHS Specialists Meeting on Helicopter Flight Controls, Arlington, TX, Oct. 11–13, 1978.

A79-53635

Stephens, W. and B.J. Hampton, "Fly-by-Wire Tail Rotor Controls," AHS Specialists Meeting on Helicopter Flight Controls, Arlington, TX, Oct. 11–13, 1978.

A79-53637

Engle, J.E., "Automatic Stabilization Equipment for the Army/Hughes YAH-64 Advanced Attack Helicopter," AHS Specialists Meeting on Helicopter Flight Controls, Arlington, TX, Oct. 11–13, 1978.

A80-21750

Franchi, L.J., "Fault-Surviving Flight Control Avionics," *Military Electronics/Countermeasures*, Vol. 5, Dec. 1979, pp. 40, 42, 44.

A80-21897

Hargrove, W.J., "Advanced Flight Controls for Transport Aircraft," *Lockheed Horizons*, Winter 1979–1980, pp. 38–45.

A80-32693

Burns, B.R.A., "Flight Control Systems, VIII," *Air International*, Vol. 18, May 1980, pp. 229–232, 260.

A80-45547

Brock, L.D. and H.A. Goddman, "Reliability/Safety Analysis of a Fly-by-Wire System," AIAA 80-1760, Guidance and Control Conference, Danvers, MA, Aug. 11–13, 1980, pp. 276–282.

A80-45914

Berry, Donald T., Bruce G. Powers, Kenneth J. Szalai, and R. J. Wilson, "A Summer of an In-Flight Evaluation of Control System Pure Time Delays During Landing Using the F-8 DFBW Airplane," AIAA 80-1626, Atmospheric Flight Mechanics Conference, Danvers, MA, Aug. 11–13, 1980, pp. 561–571.

A80-45915

Shafer, Mary F., "Low Order Equivalent Models of Highly Augmented Aircraft Determined from Flight Data Using Maximum Likelihood Estimation," AIAA 80-1627, Atmospheric Flight Mechanics Conference, Danvers, MA, Aug. 11–13, 1980, pp. 572–582.

A81-11619

Berman, H., "Improved Flight Control Performance and Failure Tolerance Using Modern Control Techniques," 12th International Council of the Aeronautical Sciences, Munich, West Germany, Oct. 12–17, 1980, pp. 209–218.

A81-14254

Droste, C.S., R.T. Zeitler, and J.L. Dabold, "A Lightning Protection Program for the F-16 Fly-by-Wire System," 21st International Symposium on Electromagnetic Compatibility, San Diego, CA, Oct. 9–11, 1979, pp. 49–55.

A81-16719

Droste, C.S. and J.E. Walker, "A Case Study on the F-16 Fly-by-Wire Flight Control System," AIAA, 1980.

A81-44135

Deckert, J.C., "Flight Test Results for the F-8 Digital Fly-by-Wire Aircraft Control Sensor Analytic Redundancy Management Technique," AIAA 81-1796, Guidance and Control Conference, Albuquerque, NM, Aug. 19–21, 1981, pp. 491–499.

A81-48064

Warwick, G., "Fly-by-Wire Jaguar," *Flight International*, Vol. 120, Sept. 12, 1981, pp. 816–818.

Cycon, M.F., Jr., "A Dual Input Actuator for Fluidic Backup Flight Control," WA-8B, AICE Joint Automatic Control Conference, Vol. 1, Charlottesville, VA, June 17–19, 1981.

A82-13505

Kohnhorst L.L., "Direct Digital Drive Actuation," AIAA 81-2298, 4th Digital Avionics Systems Conference, St. Louis, MO, Nov. 17–19, 1981, pp. 400–408.

A82-17420

Cronin, M.J., "The All-Electric Airplane—a New Trend," *Lockheed Horizons*, Winter 1981–1982, pp. 28–39.

A82-26821

Zincone, R., "The Future of Helicopter Flight Control Technology," *Vertiflite*, Vol. 28, Mar.–Apr. 1982, pp. 16–19.

A82-38969

Abrams, C.R., "A Design Criterion for Highly Augmented Fly-by-Wire Aircraft," AIAA 82-1570, Guidance and Control Conference, San Diego, CA, Aug. 9–11, 1982, pp. 410–419.

A82-40434

Mulcare, D.B., W.G. Ness, and R.M. Davis, "Analytical Design and Validation of Digital Flight Control System Structure," AIAA 82-1626, Guidance and Control Conference, San Diego, CA, Aug. 9–11, 1982.

A82-40905

Folkesson, K., P.O. Elgerona, and R. Haglund, "Design and Experience with a Low-Cost Digital Fly-by-Wire System in the SAAB JA37 Viggen A/C," 13th International Council of the Aeronautical Sciences, Congress, and AIAA Aircraft Systems and Technology Conference Proceedings, Seattle, WA, Aug. 22–27, 1982, Vol. 1, pp. 280–288.

A83-11099

Mandle, J., "Air Data Systems for Airplanes of the 1990's," NAECON 1982, Dayton, OH, May 18–20, 1982. Vol. 1, pp. 113–119.

A83-20074

Meister, N., "F-104 CCV Research Flight Test Program," SETP European Symposium, Linkoping, Sweden, June 17–19, 1982. *Cockpit*, Vol. 17, Oct.–Dec. 1982, pp. 5–19.

A83-24436

Sarma, G.R., "Nonlinear Filter for Pilot's Remnant Attenuation," *J. of Guidance, Control and Dynamics*, Vol. 6, Mar.–Apr. 1983, pp. 123–124.

A83-26503

Plant, J.B., Y.T. Chan, and D.A. Redmond, "A Discrete Tracking Control Law for Nonlinear Plants," 8th Triennial World Congress Proceedings, Kyoto, Japan, Aug. 24–28, 1981. Oxford, Pergamon Press, Vol. 1, 1982, pp. 55–60.

A83-26603

de Keyser R.M.C. and A. van Cauwenberghe, "Self-Tuning Fly-by-Wire Control System," 8th Triennial World Congress Proceedings, Kyoto, Japan, Aug. 24–28, 1981. Oxford, Pergamon Press, Vol. 4, Part B, 1982, pp. 2363–2370.

A83-32933

Whitbeck, R.F., G.K. Hellman, and W.A. Ballenger, Jr., "In-Flight Simulation of a Digitally Implemented Direct Force Mode," SFTE 12th Annual Symposium Proceedings, Dayton, OH, Sept. 16–18, 1981, pp. 13–1 to 13-11.

A83-37123

Gelderloos, H.C. and D.J. Young, "Redundancy Management of Shuttle Flight Control Rate Gyroscopes and Accelerometers," IEEE 1st American Control Conference Proceedings, Arlington, VA, June 14–16, 1982, Vol. 2, pp. 808–811.

A83-37978

Bekemeyer, L.G., "Validation of the KC-10 Refueling Boom Digital Control System," SAE 821421, Aerospace Congress and Exposition, Anaheim, CA, Oct. 25–29, 1982.

A83-41669

Larson, Richard R., R.E. Smith, and Keith D. Krambeer, "Flight-Test Results Using Nonlinear Control with the F-8C Digital Fly-by-Wire Aircraft," AIAA 83-2174, Gatlinburg, TN, Aug. 15–17, 1983, pp. 97–110.

A83-45845

Daley, E. and R.B. Smith, "Flight Clearance of the Jaguar Fly by Wire Aircraft," Certification of Avionic Systems Symposium Proceedings, London, England, Apr. 27, 1982.

A83-45846

Smith, R.B., "Flight Clearance of the Jaguar Fly-by-Wire Aircraft," Certification of Avionic Systems Symposium Proceedings, London, England, Apr. 27, 1982.

A83-48347

Rabenberg, B.E. and B.G. Palarz, "Effect of Aircraft Configuration and Control Integration on Surface Actuation," AIAA 83-2487, Aircraft Design, Systems, and Technology Meeting, Fort Worth, TX, Oct. 17–19, 1983.

A84-15652

Papadopoulos, G.M., "Avionic Architectures for Fly-by-Wire Aircraft," NTC '82; National Telesystems Conference, Galveston, TX, Nov. 7–10, 1982. IEEE, 1982, pp. B5.5.1–B5.5.3.

A84-16169

Yeo, C.J., "The Fly-by-Wire Jaguar," SETP 27th Symposium Proceedings, Beverly Hills, CA, Sept. 28–Oct. 1, 1983, pp. 193–214.

A84-19246

Barfield, A.F. and J.J. Dazzo, "Multivariable Control Laws for the AFTI/F-16," AIAA 84-0237, 22nd Aerospace Sciences Meeting,

A84-21550

Hirst, M., "Safety in Numbers, VI - Avionics Analysed," *Air International* (ISSN 0306-5634), Vol. 26, Feb. 1984, pp. 75–79.

A84-25490

Kuhnel, W.C. and R.L. Woods, "Architecture Tradeoffs with Fluidic Backup Flight Controls," IEEE American Control Conference Proceedings, San Francisco, CA, June 22–24, 1983, Vol. 2, pp. 546, 547.

A84-26721

Harschburger, H.E. and R.F. Moomaw, "Experience with the F/A-18 Digital Flight Control System," IEEE 5th Digital Avionics Systems Conference Proceedings, Seattle, WA, Oct. 31–Nov. 3, 1983, pp. 6.1.1–6.1.8.

A84-26735

Roberts, R.O. and K.F. Plag, "The Application of Digital Techniques and Advanced System Concepts to Meet the Electrical Power Requirements of an Advanced Fighter Aircraft," IEEE 5th Digital Avionics Systems Conference Proceedings, Seattle, WA, Oct. 31–Nov. 3, 1983, pp. 9.1.1–9.1.6.

A84-28018

Hilton, R.G. and D.J. Steed, "Fly-by-Wire Actuation for Combat Aircraft," *Aerospace* (UK), (ISSN 0305-0831), Vol. 11, Mar. 1984, pp. 13–18.

A84-28020

Yeo, G.J., "Fly-by-Wire Jaguar," *Aerospace* (UK), (ISSN 0305-0831), Vol. 11, Mar. 1984, pp. 21–27.

A84-28022

Dibble, D.J., "Electrically Signalled Flight-Control for Civil Aircraft," *Aerospace* (UK), (ISSN 0305-0831), Vol. 11, Mar. 1984, pp. 33–37.

A84-29541

Lyle, B.S., "Development of Control Surface Actuation Systems on Various Configurations of the F-16," SAE 831483, Aerospace Congress and Exposition, Long Beach, CA, Oct. 3–6, 1983, pp. 1–9.

A84-29543

Koziol, D.E., G.C. Billips, and F.W. Petersen, "Flight Control System Development on the B-1 Program," SAE 831485, Aerospace Congress and Exposition, Long Beach, CA, Oct. 3–6, 1983, pp. 29–42.

A84-29547

Krogh, S.B. and C.C. Chenoweth, "Application of Microprocessors to Aircraft Fly-by-Wire Hydraulic Actuation Systems," SAE Aerospace Congress and Exposition, Long Beach, CA, Oct. 3–6, 1983, pp. 85–89.

A84-32403

Harney, Paul F., "Real-Time Data Display for AFTI/F-16 Flight Testing," ITC/USA/82; ISA International Telemetry Conference, San Diego, CA, Sept. 28–30, 1982, pp. 13–33.

A84-32711

Mulcare, D.B., W.G. Ness, and R.M. Davis, "Analytical Design and Assurance of Digital Flight Control System Structure," *AIAA J. of Guidance, Control and Dynamics* (ISSN 0731-5090), Vol. 7, May–June 1984, pp. 329–337. Previously cited in issue 20, p. 3155, Accession no. A82-40434.

A84-36908

Treacy, J.J., "Flight Safety Issues of an All-Electric Aircraft," IEEE 5th Annual Symposium, Dayton, OH, Nov. 30, 1983. *IEEE Transactions on Aerospace and Electronic Systems* (ISSN 0018-9251), Vol. AES-20, May 1984, pp. 227–233.

A84-36909

Leonard, J.B., "The All-Electric Fighter Airplane Flight Control Issues, Capabilities, and Projections," IEEE 5th Annual Symposium, Dayton, OH, Nov. 30, 1983. *IEEE Transactions on Aerospace and Electronic Systems* (ISSN 0018-9251), Vol. AES-20, May 1984, pp. 234–242.

A84-36910

Rubertus, D.P., L.D. Hunter, and G.J. Cecere, "Electromechanical Actuation Technology for the All-Electric Aircraft," IEEE 5th Annual Symposium, Dayton, OH, Nov. 30, 1983. *IEEE Transactions on Aerospace and Electronic Systems* (ISSN 0018-9251), Vol. AES-20, May 1984, pp. 243–249.

A84-36913

Spitzer, C.R., "The All-Electric Aircraft - a Systems View and Proposed NASA Research Programs," IEEE 5th Annual Symposium, Dayton, OH, Nov. 30, 1983. *IEEE Transactions on Aerospace and Electronic Systems* (ISSN 0018-9251), Vol. AES-20, May 1984, pp. 261–266.

A84-42329

Shafer, Mary F., "Flight Investigation of Various Control Inputs Intended for Parameter Estimation," AIAA 84-2073, Atmospheric Flight Mechanics Conference, Seattle, WA, Aug. 21–23, 1984, pp. 33–49.

A84-44989

Coureau, J., "Flying the Mirage 2000 by Wire," AIAA 14th International Council of the Aeronautical Sciences, Vol. 1, Toulouse, France, Sept. 9–14, 1984, pp. 551–556.

A84-48517

Boyle, D., "Fly-by-Wire British Style," *Interavia* (ISSN 0020-5168), Vol. 39, Sept. 1984, pp. 899, 900.

A85-12361

Li, L., "A Reconfigurable Redundancy Management Strategy for a Triplex DFBW System," *Acta Aeronautica et Astronautica Sinica*, Vol. 5, June 1984, pp. 186–192. In Chinese, with abstract in English.

A85-17819

Harschburger, H.E., B. Glaser, and J.R. Hammel, "Backup Modes for the F/A-18 Digital Flight Control System," AIAA 84-2622, 6th Digital Avionics Systems Conference Proceedings, Baltimore, MD, Dec. 3–6, 1984, pp. 108–115.

A85-17894

Tagge, G.E., "An Assessment of the 1990 Digital/Electric Airplane," AIAA 84-2740, 6th Digital Avionics Systems Conference Proceedings, Baltimore, MD, Dec. 3–6, 1984, pp. 615–618.

A85-29125

Fraser, D.C., "Aircraft Control Systems - A Projection to the Year 2000," *IEEE Control Systems* (ISSN 0272-1708), Vol. 5, Feb. 1985, pp. 11-13.

A85-31964

Murphy, M.R., "Flight Test of the 4-Valve Fly-by-Wire/Fly-by-Optics Control System," AHS 40th Annual Forum, Arlington, VA, May 16-18, 1984, pp. 171-180.

A85-45057

Sadeghi, T. and G. Rosenthal, "A Control Law for the Self-Repairing/Digital Flight Control System," NAECON 1984, Dayton, OH, May 21-25, 1984. Vol. 1, pp. 591-595.

A85-45058

Smith, S. "A Compact Electromechanical Actuator," NAECON 1984, Dayton, OH, May 21-25, 1984. Vol. 1, pp. 598-605.

A85-45060

Hensley, W. and D. Ward, "Guidelines for Specifying Electromechanical Actuator," NAECON 1984, Dayton, OH, May 21-25, 1984. Vol. 1, pp. 613-618.

A85-45062

Wyllie, C.E., "Compromise May be Best for All-Electric Systems Actuation," NAECON 1984, Dayton, OH, May 21-25, 1984. Vol. 1, pp. 626-632.

A85-45155

Abrams, C.R. and S.T. Donley, "Flight Test of a Helicopter Fly-by-Wire/Light Actuation Control System," NAECON 1984, Dayton, OH, May 21-25, 1984. Vol. 2, 1984, pp. 1321-1328.

A85-45882

Johnston, Donald E. and Duane T. McRuer, "Investigation of Limb-Sidestick Dynamic Interaction with Roll Control," AIAA 85-1853, Guidance, Navigation and Control Conference, Snowmass, CO, Aug. 19-21, 1985, pp. 47-57.

A85-45967

Dietrich, A.R. and F.J. Thomas, "Digital Computer Architecture as Applied to an Advanced Flight Control System," AIAA 85-1949, Guidance, Navigation, and Control Conference, Snowmass, CO, Aug. 19-21, 1985, pp. 836-841.

A85-47789

Keyser, D.R., "Performance Evaluation of an Electrofluidic Flight Control Actuator," 1984 American Control Conference Proceedings, San Diego, CA, June 6-8, 1984, Vol. 3, pp. 1695-1700.

A86-10931

Breul, H.T., T.L. Keller, and R.C. Weston, "Modeling Vehicle Dynamics for Flying Qualities Studies," AIAA 85-3062, AIAA/AHS/ASEE Aircraft Design Systems and Operations Meeting, Colorado Springs, CO, Oct. 14-16, 1985.

A86-11439

Yount, L.J., K.A. Liebel, and B.H. Hill, "Fault Effect Protection and Partitioning for Fly-by-Wire/Fly-by-Light Avionics Systems," AIAA 85-6002, 5th Computers in Aerospace Conference, Long Beach, CA, Oct. 21-23, 1985, pp. 275-284.

A86-17175

Warwick, G., "For Agile Read Active," *Flight International* (ISSN 0015-3710), Vol. 128, Nov. 9, 1985, pp. 29–31.

A86-19728

Gera, Joseph, "Dynamics and Controls Flight Testing of the X-29A Airplane," AIAA 86-0167, 24th Aerospace Sciences Meeting, Reno, NV, Jan. 6–9, 1986.

A86-24830

Spitzer, C.R., "A New Direction in Energy Conversion - the All-Electric Aircraft," 20th SAE Interstices Energy Conversion Engineering Conference Proceedings, Miami Beach, FL, Aug.18–23, 1985, Vol. 1, pp. 1.388–1.393.

A86-26165

Zava, M. and G. Mariani, "Simulation Concepts and Testing of the Tail Rotor Fly-by-Wire System of the A129 Helicopter," Netherlands Association of Aeronautical Engineers and Technische Hogeschool te Delft, 10th European Rotorcraft Forum, The Hague, Netherlands, Aug. 28–31, 1984.

A86-28379

Dannenhoffer, J. and J. Lindahl, "Development of Hardware for X-29A Flight Control System," NAECON 1985, Dayton, OH, May 20–24, 1985. Vol. 1, pp. 440–445.

A86-28401

Chenoweth, C.C. and D.B. Slaugh, "Microprocessor Controlled and Managed Fly-by-Wire Hydraulic Actuator," NAECON 1985, Dayton, OH, May 20–24, 1985. Vol. 1, pp. 628–632.

A86-28402

Whitaker, R., A. Harmon, and L. Haynes, "A Survivable Fly-by-Wire Spoiler Actuation System Featuring Nonflammable Fluid, 8,000 PSI Hydraulics and Direct Drive Valves," NAECON 1985, Dayton, OH, May 20–24, 1985. Vol. 1, pp. 633–640.

A86-28509

Moorhouse, D.J. and W.A. Moran, "Flying Qualities Design Criteria for Highly Augmented Systems," NAECON 1985, Dayton, OH, May 20–24, 1985. Vol. 2, pp. 1536–1545.

A86-29058

Berman, H., "Advancing Flight Control Technology," *Horizons* (ISSN 0095-7615), Vol. 21, No. 3, 1985, pp. 14–21.

A86-29854

Berkhout, J., R. Osgood, and Donald T. Berry, "Pilot Usage of Decoupled Flight Path and Pitch Controls," 3rd Symposium on Aviation Psychology, Columbus, OH, Apr. 22–25, 1985, pp. 39–46.

A86-32116

Tierney, S.C., "In-flight Excitation of the F-16XL," AIAA 86-9782, AIAA/AHS/CASI/DGLR/IES/ ISA/ ITEA/SETP/SFTE 3rd Flight Testing Conference, Las Vegas, NV, Apr. 2–4, 1986.

A86-35443

Melvin, W.W., "Pilot Interface with Fly-by-Wire Control Systems," SAE 851836, 4th Aerospace Behavioral Engineering Technology Conference, Long Beach, CA, Oct. 14–17, 1985, pp. 153–157.

A86-38846

Besch, M., "Influence of FBW - Control Laws on Structural Design of Modern Transport Aircraft," AIAA 86-0953, 27th Structures, Structural Dynamics, and Materials Conference, San Antonio, TX, May 19–21, 1986, Part 1, pp. 409-420.

A86-47420

Patton, R.J., S.W. Willcox, and S.J. Winter, "A Parameter Insensitive Technique for Aircraft Sensor Fault Analysis Using Eigenstructure Assignment and Analytical Redundancy," AIAA 86-2029, Guidance, Navigation, and Control Conference, Williamsburg, VA, Aug. 18–20, 1986, pp. 165–179.

A87-13991

Carl, U., "Design Considerations for Fly-by-Wire Control of New Airbus Aircraft," MBB-UT-222-86, Munich, West Germany, Apr. 28–30, 1986. In German.

A87-14013

Reichel, R. and F. Boos, "Redundant Computer System for Fly-by-Wire Controls," Munich, West Germany, Apr. 28–30, 1986. In German.

A87-15477

Lyle, B.S., "Reducing Complexity in Fly-by-Wire Flight Control Actuators," SAE 851752, Advanced Actuation, Controls, and Integration for Aerospace Vehicles Conference, San Diego, CA, Oct. 9, 1985, pp 1–7.

A87-16186

Mereau, P. and S. Abu el Ata-Doss, "Parameter Estimation of Aircraft with Fly-by-Wire Control Systems," 7th Identification and System Parameter Estimation Symposium, York, England, July 3–7, 1985, Vol. 1, pp. 505–510.

A87-16394

Warwick, G., "A320 - Fly-by-Wire Airliner," *Flight International* (ISSN 0015-3710), Vol. 130, Aug. 30, 1986, pp. 86–90, 93, 94.

A87-16766

De Feo, P. and K.C. Shih, "Requirement Analysis of an Intelligent, Redundant, Actuation System," NAE-CON 1986, Dayton, OH, May 19–23, 1986. Vol. 2, pp. 391–398.

A87-18449

Bossard, M. and B. Keller, "A320 - the Challenge of Fly-by-Wire Controls," *Revue Aerospatiale* (ISSN 0065-3780), Sept. 1986, pp. 22–25. In English and French.

A87-19284

Emiro, P.J., "Shadow," 42nd American Helicopter Society Annual Forum, Washington, DC, June 2–4, 1986, Vol. 2, pp. 1097–1102.

A87-25437

Reed, Fred, "The Electric Jet," *Air and Space* (ISSN 0886-2257), Vol. 1, Dec. 1986–Jan. 1987, pp. 42–48.

A87-31466

Osder, Stephen S., "Helicopter Avionics Architecture for Integrating Flight Critical Functions," 7th IEEE Digital Avionics Systems Conference, Fort Worth, TX, Oct. 13–16, 1986, pp. 134–141.

A87-31479

Shaw, John L., Hans K. Herzog, and Kenji Okubo, "Digital Autonomous Terminal Access Communication (DATAAC)," IEEE 7th Digital Avionics Systems Conference, Fort Worth, TX, Oct. 13–16, 1986, pp. 221–226.

A87-31515

Gluch, David P. and Michael J. Paul, "Fault-Tolerance in Fly-by-Wire Flight Control Systems," IEEE 7th Digital Avionics Systems Conference, Fort Worth, TX, Oct. 13–16, 1986, pp. 507–514.

A87-31537

Dunn, William R., "Software Reliability - Measures and Effects in Flight Critical Digital Avionics Systems," IEEE 7th Digital Avionics Systems Conference, Fort Worth, TX, Oct. 13–16, 1986, pp. 664–669.

A87-32232

Johnston, Donald E. and Duane T. McRuer, "Investigation of Limb-Side Stick Dynamic Interaction with Roll Control," AIAA Guidance, Navigation, and Control Conference, Snowmass, CO, Aug. 19–21, 1985, pp. 47–57. *AIAA J. of Guidance, Control, and Dynamics* (ISSN 0731-5090), Vol. 10, Mar.–Apr. 1987, pp. 178–186. Previously cited in issue 22, p. 3229, Accession no. A85-45882.

A87-32234

Breul, H.T., T.L. Keller, and R.C. Weston, "Development and Application of a Convolution Technique for Flying Qualities Research," *AIAA J. of Guidance, Control, and Dynamics* (ISSN 0731-5090), Vol. 10, Mar.–Apr. 1987, pp. 195–200. Previously cited in issue 01, p. 12, Accession no. A86-10931.

A87-32646

Corps, S.G., "Airbus A320 Side Stick and Fly by Wire - an Update," SAE 861801, Aerospace Technology Conference and Exposition, Long Beach, CA, Oct. 13–16, 1986.

A87-32649

Heldt, Peter H., "Airline Requirements on a Fly-by-Wire Aircraft - a Pilot's View," SAE 861804, Aerospace Technology Conference and Exposition, Long Beach, CA, Oct. 13–16, 1986.

A87-33047

Kruk, R.V., D.W. Runnings, M. King, A.L. Lippay, and G.M. McKinnon, "Development and Evaluation of a Proportional Displacement Sidearm Controller for Helicopters," 30th Human Factors Society Annual Meeting, Dayton, OH, Sept. 29–Oct. 3, 1986. Vol. 2, pp. 865–869.

A87-35002

Sobel, K.M. and E.Y. Shapiro, "Flight Control Synthesis via Eigenstructure Assignment - the Discrete Version," 28th Annual Conference on Aviation and Astronautics, Tel Aviv and Haifa, Israel, Feb. 19–20, 1986, pp. 1–6.

A87-35018

Porter, B., A. Manganas, and T. Manganas, "Design of Fast Non-Interacting Digital Flight Control Systems for Short-Takeoff-and-Landing Aircraft," 28th Annual Conference on Aviation and Astronautics, Tel Aviv and Haifa, Israel, Feb. 19–20, 1986, pp. 157–164.

A87-36305

Hammen, M., "Fifteen Years of Flight Control Evolution on European Airbus Aircraft Weight Impact," SAWE 1743, 45th Annual Conference Williamsburg, VA, May 12–14, 1986.

A87-43440

Bouwer, G. and M. Zoellner, "Realization and Flight Testing of a Model Following Control System for Helicopters," 12th European Rotorcraft Forum, Garmisch-Partenkirchen, West Germany, Sept. 22–25, 1986.

A87-43441

Leydendecker, H., "The Model Inverse as an Element of a Manoeuvre Demand System for Helicopters," 12th European Rotorcraft Forum, Garmisch-Partenkirchen, West Germany, Sept. 22–25, 1986.

A87-47806

Patton, R.J., S.W. Willcox, and J.S. Winter, "Parameter-Insensitive Technique for Aircraft Sensor Fault Analysis," AIAA Guidance, Navigation, and Control Conference, Williamsburg, VA, Aug. 18–20, 1986, pp. 165–179. AIAA *J. of Guidance, Control, and Dynamics* (ISSN 0731-5090), Vol. 10, July–Aug. 1987, pp. 359–367. Previously cited in issue 23, p. 3402, Accession no. A86-47420.

A87-48947

McManus, Bruce L., "V-22 Tiltrotor Fly-by-Wire Flight Control System," 11th European Rotorcraft Forum, London, England, Sept. 10–13, 1985.

A87-50430

Porter, B. and A. Manganas, "Recursive Real-Time Identification of Step-Response Matrices of High-Performance Aircraft with Noisy Sensors for Adaptive Digital Flight Control," AIAA 87-2309, Guidance, Navigation, and Control Conference, Monterey, CA, Aug. 17–19, 1987, pp. 247–256.

A87-50536

Moralez, E., V.K. Merrick, and J.A. Schroeder, "Simulation Evaluation of the Advanced Control Concept for the NASA V/STOL Research Aircraft (VSRA)," AIAA 87-2535, Guidance, Navigation, and Control Conference, Monterey, CA, Aug. 17–19, 1987, pp. 1273–1294.

A87-50549

Yasue, Masahiro, Hideki Kanno, Hiroshi Abe, Hideaki Ohmiya, Ryoji Katayanagi, "Fly-by-Wire System and Control Laws of the T-2 Control Configured Vehicle," AIAA Guidance, Navigation, and Control Conference, Monterey, CA, Aug. 17–19, 1987, Vol. 2, pp. 1396–1404.

A87-50567

Mulcare, D.B., L.A. Barton, and W.E. Larsen, "An ADA Demonstration of N-Version Software Fault Tolerance," AIAA 87-2606, Guidance, Navigation, and Control Conference, Monterey, CA, Aug. 17–19, 1987, pp. 1560–1570.

A88-10167

Heldt, Peter H., "Airline Requirements on a Fly-by-Wire Aircraft - a Pilot's View," SAE 861804, 5th Aerospace Behavioral Engineering Technology Conference, Long Beach, CA, Oct. 13–16, 1986, pp. 177–179.

A88-13080

Honda, Yuichi, Yasuo Takeuchi, and Hisanao Nakayama, "Design Study for an FBW Lateral Control System," *Society for Aeronautical and Space Sciences* (ISSN 0021-4663), Vol. 34, No. 394, 1986, pp. 600–607. In Japanese.

A88-14259

Chin, J., Vince Chacon, and Joseph Gera, "X-29A Flight Control Performance During Flight Test," AIAA 87-2878, AIAA/AHS/ASEE Aircraft Design, Systems, and Operations Meeting, St. Louis, MO, Sept. 14–16, 1987.

A88-14271

Finelli, George B. and Daniel L. Palumbo, "Design and Validation of Fault-Tolerant Flight Systems," AIAA 87-2923, AIAA/AHS/ASEE Aircraft Design, Systems, and Operations Meeting, St. Louis, MO, Sept. 14–16, 1987.

A88-21269

Asok, Ray, "Performance Evaluation of Medium Access Control Protocols for Distributed Digital Avionics," ASME 87-WA/DSC-2, *Transactions, J. of Dynamic Systems, Measurement, and Control* (ISSN 0022-0434), Vol. 109, Dec. 1987, pp. 370–377.

A88-23062

Hopkins, Harry, "The State of the Art - Flight Test - Airbus A320," *Flight International* (ISSN 0015-3710), Vol. 132, Dec. 12, 1987, pp. 23–27.

A88-23860

Gardiner, P.T. and R.A. Edwards, "Fibre Optics Sensors (FOS) for Aircraft Flight Controls," Applications of Light in Guided Flight Symposium, London, England, Jan. 22, 1987, pp. 42–63.

A88-27752

Pelegrin, Marc J., "Technological Leaps Occurring in the Aeronautical and Space Fields," Automatic Systems in Aeronautics National Colloquium, Paris, France, Mar. 17–19, 1986, *Cepadues-Editions*, pp. 9–58. In French.

A88-28860

Petiau, C., "Determination of Design Loading Values of Current Combat Aircraft," *L'Aeronautique et l'Astronautique* (ISSN 0001-9275), No. 127, 1987, pp. 28–32. In French.

A88-29707

Learmount, David, "A320 Certification - the Quiet Revolution," *Flight International* (ISSN 0015-3710), Vol. 133, Feb. 27, 1988, pp. 21–24.

A88-30768

Summers, L.G., J.H. Shannon, T.R. White, and R.J. Shiner, "Fly-by-Wire Sidestick Controller Evaluation," SAE 871761, Aerospace Technology Conference and Exposition, Long Beach, CA, Oct. 5–8, 1987.

A88-30819

Keyser, David R., "Flight Test and Evaluation of Fluidic Flight Control," Aerospace Technology Conference and Exposition, Long Beach, CA, Oct. 5–8, 1987.

A88-32686

Sutcliffe, P.L., "Active Control Developments for the Boeing 7J7," Active Control Technology: Experience and Prospects Spring Convention, London, England, May 13–14, 1987, pp. 4–56.

A88-34109

Schneider, D.L., I.M. Horowitz, and C.H. Houppis, "QFT Digital Flight Control Design as Applied to the AFTI/F-16," NAECON 87, Dayton, OH, May 18–22, 1987. Vol. 2, pp. 616–623.

A88-35379

Bakken, Jeffrey T., "Implementation of Fly-by Wire/Fly-by-Light Experimental Flight Control System in Helicopters," AHS Rotorcraft Flight Controls and Avionics, National Specialists' Meeting, Cherry Hill, NJ, Oct. 13–15, 1987.

A88-35391

Fredericks, Edward A., Willard J. Harris, and Douglas C. Shidler, "X-Wing Fly-by-Wire Flight Control System," AHS Rotorcraft Flight Controls and Avionics, National Specialists' Meeting, Cherry Hill, NJ, Oct. 13–15, 1987.

A88-35392

Osder, S. S., "Qualification Testing of AH64 Fly by Wire Back Up Control System," AHS Rotorcraft Flight Controls and Avionics, National Specialists' Meeting, Cherry Hill, NJ, Oct. 13–15, 1987.

A88-38191

Li, Lichun, "A Study of Digital Fly-by-Wire Control System Design for Elastic Aircraft," *Acta Aeronautica et Astronautica Sinica* (ISSN 1000-6893), Vol. 9, Feb. 1988, pp. B41-B50. In Chinese, with abstract in English.

A88-40528

Yasue, Masahiro, Akira Kubo, Tadashi Kameyama, Morio Takahama, Ryoji Katayanagi, "FBW System and Control Law of the T-2 CCV," *Society for Aeronautical and Space Sciences* (ISSN 0021-4663), Vol. 35, No. 405, 1987, pp. 482-492. In Japanese.

A88-41425

"Fluidic Flight Control - Early Test Results," *Aerospace Engineering* (ISSN 0736-2536), Vol. 8, June 1988, pp. 35–39.

A88-45243

Brahney, James H., "FBW Damage Repair Concepts Examined," *Aerospace Engineering* (ISSN 0736-2536), Vol. 8, July 1988, pp. 12–15.

A88-45952

Traverse, Pascal, "Airbus and ATR System Architecture Specification," *Software Diversity in Computerized Control Systems*, 1988, pp. 95–104.

A88-46439

Chatrenet, E., M. Leiber, and N. Warner, "Impact of Electrical Flight Control Systems on A320 Flight Simulator Data Acquisition," *The Acquisition and Use of Flight Simulation Technology in Aviation Training International Conference*, London, England, Apr. 27–29, 1987. Vol. 2, pp. 282–316.

A88-50250

Skowronski, J.M., "Winning Controllers for Nonlinear Air Combat Game with Reduced Dynamics," AIAA 88-4157, Guidance, Navigation, and Control Conference, Minneapolis, MN, Aug. 15–17, 1988, Part 2, pp. 866–873.

A88-50968

Wyllie, C.E., "Aircraft Side Hand Controllers - Where to From Here?" NAECON 88, Dayton, OH, May 23–27, 1988. Vol. 2, p. 454–460.

A88-51429

Ranz, Dale M. and Charles J. Berthe, "Boeing 7J7 Fly-by-Wire Control Development," SETP 31st Report to the Aerospace Profession, Beverly Hills, CA, Sept. 23–26, 1987, pp. 33–50.

A88-53769

Klavin, J.F., "Integrated Thrust Vectoring on the X-29A," AIAA 88-4499, AIAA/AHS/ASEE Aircraft Design, Systems, and Operations Meeting, Atlanta, GA, Sept. 7–9, 1988.

A88-55288

Tilson, Joseph F., "A Profile of US Air Force Aircraft Mishap," ISTFA 1987 International Symposium for Testing and Failure Analysis: Advanced Materials, Los Angeles, CA, Nov. 9–13, 1987. ASM International, Metals Park, OH, 1987, pp. 159–162.

A89-10641

DeCamp, Ronald W., Richard Hardy, and Douglas K. Gould, "Mission-Adaptive Wing," SAE 872419, International Pacific Air and Space Technology Conference, Melbourne, Australia, Nov. 13–17, 1987, pp. 189–195.

A89-13588

Hanke, D. and H.H. Lange, "Flight Evaluation of the ATTAS Digital Fly-by-Wire/Light Flight Control System," ICAS 16th Congress, Jerusalem, Israel, Aug. 28–Sept. 2, 1988. Vol. 1, pp. 866–876.

A89-13589

Manoharan, L.C. and S. Muthuvel, "An Intelligent Fiberoptic Data Bus for Fly-by-Light Applications," ICAS 16th Congress, Jerusalem, Israel, Aug. 28–Sept. 2, 1988, Vol. 1, pp. 877–879.

A89-18099

Osder, Stephen S., "Digital Fly-by-Wire System for Helicopters," AIAA 88-392, AIAA/IEEE 8th Digital Avionics Systems Conference, San Jose, CA, Oct. 17–20, 1988, Part 1, pp. 340–346.

A89-18100

Fischer, William C., "X-Wing Fly-by-Wire Vehicle Management System," AIAA 88-3923, AIAA/IEEE 8th Digital Avionics Systems Conference, San Jose, CA, Oct. 17–20, 1988, Part 1, pp. 347–355.

A89-18108

Bleeg, Robert J., "Commercial Jet Transport Fly-by-Wire Architecture Considerations," AIAA 88-3900, AIAA/IEEE 8th Digital Avionics Systems Conference, San Jose, CA, Oct. 17–20, 1988, Part 1, pp. 399–406.

A89-18110

Walter, Chris J., "MAFT - an Architecture for Reliable Fly-by-Wire Flight Control," AIAA 88-3902, AIAA/IEEE 8th Digital Avionics Systems Conference, San Jose, CA, Oct. 17–20, 1988, Part 1, pp. 415–421.

A89-18122

Reichel, Reinhard W., "Digital Control of a Quadruplex Direct Drive Actuator," AIAA 88-3951, AIAA/IEEE 8th Digital Avionics Systems Conference, San Jose, CA, Oct. 17–20, 1988, Part 2, pp. 493–500.

A89-18905

Morgan, J.M., "A Comparison Between Various Side-Arm Controller Configurations in a Fly-by-Wire Helicopter," AHS 44th Annual Forum, Washington, DC, June 16–18, 1988, pp. 635–648.

A89-19557

Waller, D. and M. Solan, "X-29 Validation Methodology for Simulation and Flight Control System," SCS Multiconference Proceedings, San Diego, CA, Feb. 3-5, 1988, pp. 68-88.

A89-22507

Schroeder, J.A., E. Moralez, and V.K. Merrick, "Evaluation of a Command Monitoring Concept for a V/STOL Research Aircraft," *AIAA J. of Guidance, Control, and Dynamics* (ISSN 0731-5090), Vol. 12, Jan.-Feb. 1989, pp. 46-53. Previously cited in issue 22, p. 3542, Accession no. A87-50536.

A89-24487

Pelegrin, M.J. and B. Ziegler, "The New Complement for Air and Spacecraft - a Man/a Computer," IFAC 10th Triennial World Congress, Munich, Federal Republic of Germany, July 27-31, 1987. Vol. 6. Oxford, England and Elmsford, NY, Pergamon Press, 1988, pp. 103-115.

A89-24491

Chandrasekhar, J. and M.P.R.V. Rao, "A New Model Reference Adaptive Aircraft Controller," IFAC 10th Triennial World Congress, Munich, Federal Republic of Germany, July 27-31, 1987. Vol. 6. Oxford, England and Elmsford, NY, Pergamon Press, 1988, pp. 139-144.

A89-28256

Cronin, Michael J., "The All Electric Airplane Revisited," SAE 881407, Aerospace Technology Conference and Exposition, Anaheim, CA, Oct. 3-6, 1988, pp. 9-26.

A89-30617

Berthe, C.J., L.H. Knotts, J.H. Peer, and N.C. Weingerten, "Fly-by-Wire Design Considerations," SETP 20th Annual European Symposium, Linkoping, Sweden, June 1988. *Cockpit* (ISSN 0742-1508), Oct.-Dec. 1988, pp. 4-15.

A89-36932

Moralez, E., V.K. Merrick, and J.A. Schroeder, "Simulation Evaluation of an Advanced Control Concept for a V/STOL Aircraft," *AIAA J. of Guidance, Control, and Dynamics* (ISSN 0731-5090), Vol. 12, May-June 1989, pp. 334-341. Previously cited in issue 22, p. 3542, Accession no. A87-50536.

A89-41063

"Soviet Aerospace Industry - Mikoyan Design Group Upgrading MIG-29 with Fly-by-Wire Controls, New Cockpit," *Aviation Week and Space Technology* (ISSN 0005-2175), Vol. 130, June 5, 1989, p. 81.

A89-45158

Hoffart, Terry M. and Marc G. Stevens, "F/A-18A Digital Flight Control System Degraded Modes Flight Evaluation," SETP 32nd Report to the Aerospace Profession Symposium, Beverly Hills, CA, Oct. 13-15, 1988, pp.130-148.

A89-45159

McElroy, Collet E., "FAA Handling Qualities Assessment - Methodology in Transition," SETP 32nd Report to the Aerospace Profession Symposium, Beverly Hills, CA, Oct. 13-15, 1988, pp. 149-166.

A89-48434

Markman, Steven R., "In-Flight and Ground Based Simulation - Capabilities and Limitations," AIAA 89-3328, Flight Simulation Technologies Conference and Exhibit, Boston, MA, Aug. 14-16, 1989, pp. 441-445.

Dunbar, M.V. and J.L. Dargan, AIAA 89-3330, Flight Simulation Technologies Conference and Exhibit, Boston, MA, Aug. 14-16, 1989, pp. 452-461.

A89-52168

Subramanian C. and D.K. Subramanian, "Performance Analysis of Voting Strategies for a Fly-by-Wire System of a Fighter Aircraft," *IEEE Transactions on Automatic Control* (ISSN 0018-9286), Vol. 34, Sept. 1989, pp. 1018–1021.

A89-52718

Farineau, J., "Lateral Electric Flight Control Laws of a Civil Aircraft Based Upon Eigenstructure Assignment Technique," AIAA 89-3594, Guidance, Navigation, and Control Conference, Boston, MA, Aug. 14–16, 1989.

A90-12764

Kaletka, Juergen and Wolfgang von Gruenhagen, "Identification of Mathematical Derivative Models for the Design of a Model Following Control System," *Vertica* (ISSN 0360-5450), Vol. 13, No. 3, 1989, pp. 213–228.

A90-16696

Jacques, Claude, "The VSCF System has Arrived - the Way in Which a New Constant-Frequency Electrical Generation System in Aeronautics has Been Developed," *Revue Scientifique et Technique de la Defense* (ISSN 0994-1541), 3rd Quarter, 1989, pp. 77–85. In French.

A90-21711

Norwine, Philip C., "The Coming Age of the Tiltrotor," *Vertiflite* (ISSN 0042-4455), Vol. 36, Jan.–Feb. 1990, pp. 39–46.

A90-24281

Burns, B.R.A. and J.C. Gibson, "Pay-Offs and Pitfalls of Fly-by-Wire," *Interavia* (ISSN 0020-5168), Vol. 44, Dec. 1989, pp. 1208–1211.

A90-30222

Dornheim, Michael A., "Fly-by-Wire Controls Key to 'Pure' Stealth Aircraft," *Aviation Week and Space Technology* (ISSN 0005-2175), Vol. 132, Apr. 9, 1990, pp. 36, 37, 40, 41.

A90-31388

Learmount, David, "After Habsheim," *Flight International* (ISSN 0015-3710), Vol. 137, Apr. 11, 1990, pp. 32–35.

A90-44723

Faltus, Milan, "Problems in the Synthesis of Advanced Aircraft Control Systems," *Zpravodaj VZLU* (ISSN 0044-5355), No. 3, 1990, pp. 119–132. In Czech.

A90-45159

Hindson, William S., Jeffery A. Schroeder, and Michelle M. Eshow, "A Pilot Rating Scale for Evaluating F Transients in Electronic Flight Control," AIAA 90-2827, Atmospheric Flight Mechanics Conference, Portland, OR, Aug. 20–22, 1990, pp. 270–284.

A90-48529

Thompson, H.A. and P.J. Fleming, "Fault-Tolerant Transputer-Based Controller Configurations for Gas-Turbine Engines," *IEEE Proceedings, Part D - Control Theory and Applications* (ISSN 0143-7054), Vol. 137, Part D, No. 4, July 1990, pp. 253–260.

A90-48885

Huband, G.W. and W.J. Gillard, "X-29 High Angle-of-Attack Flight Testing - Program Status," AIAA 90-3303, AIAA/AHS/ASEE Aircraft Design, Systems, and Operations Conference, Dayton, OH, Sept. 17-19, 1990.

A90-49823

Beech, Eric, "Gripen Wins its Wings," *Flight International* (ISSN 0015-3710), Vol. 138, Sept. 11, 1990, pp. 90-93, 95, 96.

A90-52574

North, David M., "Aviation Week Editor Flies Top Soviet Interceptor," *Aviation Week and Space Technology* (ISSN 0005-2175), Vol. 133, Sept. 24, 1990, pp. 32-35, 41.

A91-16281

Bailey, Randall E., "The Application of Pilot Rating and Evaluation Data for Fly-by-Wire Flight Control System Design," AIAA 90-2826, 8th Atmospheric Flight Mechanics Conference, Portland, OR, Aug. 20-22, 1990.

A91-20610

Mansfeld, Guenter, Klaus Bender, and Klaus-Dieter Holle, "DISCUS - a Failure-Tolerant FBW/FBL Experimental System," *DLR-Nachrichten* (ISSN 0937-0420), Nov. 1990, pp. 6-11. In German.

A91-20993

Kempel, Robert W., Paul W. Phillips, C. Gordon Fullerton, and John J. Bresina, "AFTI/F-111 Airplane Mission Adaptive Wing Operational Flight Evaluation Technique Using Uplinked Pilot Command Cues," SFTE 20th Annual Symposium, Reno, NV, Sept. 18-21, 1989, pp. 3.6-1 to 3.6-19.

A91-21249

Goossen, Emray, "Verification of Flight Critical Systems," SAE 901051, Aerospace Atlantic Meeting, Dayton, OH, Apr. 23-26, 1990.

A91-29464

Perra, Raymond C. and Dennis M. Achgill, "Advanced Control System Architecture for the T800 Engine," AHS Rotary Wing Propulsion Specialists' Meeting, Williamsburg, VA, Nov. 13-15, 1990.

A91-30909

Tuttle, Frederick L., Robert L. Kisslinger, and Dion F. Ritzema, "F-15 S/MTD IFPC Fault Tolerant Design," NAECON 90, Dayton, OH, May 21-25, 1990. Vol. 2, pp. 501-506.

A91-36354

Puyplat, Didier, "A320 - First of the Computer-Age Aircraft," *Aerospace America* (ISSN 0740-722X), Vol. 29, May 1991, pp. 28-30.

A91-38037

Woods, E. J., "Aircraft Electrical System Computer Simulation," 25th Intersociety Energy Conversion Engineering Conference, Reno, NV, Aug. 12-17, 1990. Vol. 2, pp. 84-89.

A91-43082

Agami, D. and H. Yahia, "FCS Skewed Sensors Array - Practical Considerations," 31st Annual Conference on Aviation and Astronautics, Tel Aviv, Israel, Feb. 21, 22, 1990, pp. 44-50.

A91-45369

Gallot, J., G. Millon, and C. Clerc, "The Fly-by-Wire Concept and its Application to the NH90 Helicopter," 15th European Rotorcraft Forum, Amsterdam, Netherlands, Sept. 12–15, 1989.

A91-48537

Sommer, David L. and Miguel A. Maldonado, "Application of a Fault Tolerant Electrical Power System," SAE 901803, Aerospace Technology Conference and Exposition, Long Beach, CA, Oct. 1–4, 1990.

A91-49708

Osder, Stephen and Donald Caldwell, "Design and Robustness Issues for Highly Augmented Helicopter Controls," AIAA 91-2751, Guidance, Navigation, and Control Conference, New Orleans, LA, Aug. 12–14, 1991, Vol. 3, pp. 1370–1380.

A91-49799

Figuroa, Luis, C.S. Hong, Glen E. Miller, Charles R. Porter, and David K. Smith, "Photonics Technology for Aerospace Applications," *Photonics Spectra* (ISSN 0731-1230), Vol. 25, July 1991, pp. 117, 118, 120, 122, 124.

A91-52212

Feng, Yachang, Gang Chen, and Peiqiong Li, "A Simulation Study on Takeoff and Landing Dynamics of Fly-by-Wire Control System Aircraft," *Acta Aeronautica et Astronautica Sinica* (ISSN 1000-6893), Vol. 12, June 1991, pp. B252–B258. In Chinese.

A91-52945

Chambers, Howard A., "Turboshaft Engine Development for Commercial Tiltrotor Aircraft," SAE 911017, General, Corporate, and Regional Aviation Meeting and Exposition, Wichita, KS, Apr. 9–11, 1991.

A91-54578

Dennis, R.W. and A.D. Hills, "A Fault Tolerant Fly by Wire System for Maintenance Free Applications," IEEE/AIAA/NASA 9th Digital Avionics Systems Conference, Virginia Beach, VA, Oct. 1518, 1990, pp. 11–20.

A91-55031

Narayanan, K.G., "Three Decades of Aeronautical Research at ADE," *Aeronautical Society of India* (ISSN 0001-9267), Vol. 43, Feb. 1991, pp. 1–4.

A92-12750

Lenorovitz, Jeffrey M., "First Flight for Airbus A340," *Aviation Week and Space Technology* (ISSN 0005-2175), Vol. 135, Nov. 4, 1991, pp. 36–38, 43, 46–48, 50, 51.

A92-15679

Tillman, Kenneth D. and Timothy J. Ikeler, "Integrated Flight/Propulsion Control for Flight Critical Applications - a Propulsion System Perspective," ASME 91-GT-284, 36th International Gas Turbine and Aeroengine Congress and Exposition, Orlando, FL, June 3–6, 1991.

A92-16056

Hopkins, Roy C. and Richard Balzer, "V-22 Flight Test," SETP 34th Report to the Aerospace Profession Symposium Proceedings, Beverly Hills, CA, Sept. 27–29, 1990, pp. 67–81.

A92-16061

Farley, Harold C., Jr., and Richard Abrams, "F-117A Flight Test Program," SETP 34th Report to the Aerospace Profession Symposium Proceedings, Beverly Hills, CA, Sept. 27–29, 1990, pp. 141–167.

A92-16621

Hopkins, Harry, "Delivered with Feeling," *Flight International* (ISSN 0015-3710), Vol. 140, Nov. 20, 1991, pp. 31, 35, 38.

A92-16623

Hopkins, Harry, "Feeling Normal," *Flight International* (ISSN 0015-3710), Vol. 140, Nov. 27, 1991, pp. 29–31.

A92-33277

Vieten, K.W., "High-Performance Fighter Fly-by-Wire Flight Control Actuation System," AIAA 92-1123, Aerospace Design Conference, Irvine, CA, Feb. 3–6, 1992.

A92-35756

Delestrade, P. and J.M. Massimi, "Preliminary Evaluation of New Control Laws on the Experimental Fly-by-Wire Dauphin Helicopter," 16th European Rotorcraft Forum, Glasgow, Scotland, Sept. 18–21, 1990.

A92-37577

Zimmerman, Helmut, "Aeroservoelasticity," A92-37547 15-31, 2nd World Congress on Computational Mechanics, Stuttgart, Federal Republic of Germany, Aug. 27–31, 1990. *Computer Methods in Applied Mechanics and Engineering* (ISSN 0045-7825), Vol. 90, No. 1–3, Sept. 1991, pp. 719–735.

A92-39982

Clough, Bruce T., "On Upsets of Analog Portions of Digital Flight Control Systems due to Electromagnetic Interference," SAE 912144, Aerospace Technology Conference and Exposition, Long Beach, CA, Sept. 23–26, 1991.

A92-48491

Jenney, Gavin D., "Simple Fly-by-Wire Actuator," NAECON 91, Dayton, OH, May 20–24, 1991. Vol. 2, pp. 522–528.

A92-48493

Alden, Ralph, "C-141 and C-130 Power-by-Wire Flight Control Systems," NAECON 91, Dayton, OH, May 20–24, 1991. Vol. 2, pp. 535–539.

A92-48494

Simsic, Craig J., "Electric Actuation System Duty Cycles," NAECON 91, Dayton, OH, May 20–24, 1991. Vol. 2, pp. 540–545.

A92-48499

Todd, John R., "Making Fly-by-Light a Reality," NAECON 91, Dayton, OH, May 20–24, 1991. Vol. 2, pp. 577–584.

A92-49254

Pruyn, Richard R. and Timothy C. Nichols, "Testing and Analysis of a 'Smart' Interface to Connect Two Complex Avionics Bus Systems without Significant Modification to the Software of Either System," IEEE/AIAA 10th Digital Avionics Systems Conference, Los Angeles, CA, Oct. 14–17, 1991, pp. 12-17.

A92-49284

Price, Christopher E., "Fault Tolerant Avionics for the Space Shuttle," IEEE/AIAA 10th Digital Avionics Systems Conference, Los Angeles, CA, Oct. 14–17, 1991, pp. 203–206.

A92-49325

Palumbo, Dan, "A Low Maintenance and Highly Reliable Fly-by-Light Architecture," IEEE/AIAA 10th Digital Avionics Systems Conference, Los Angeles, CA, Oct. 14–17, 1991, pp. 477–481.

A92-53107

Robinson, Paul, Richard Gillette, Ronald Tucker, and Brian Aust, "Automatic Production Test Equipment (APTE) for the B-2," AUTOTESTCON '91; IEEE Systems Readiness Technology Conference, Anaheim, CA, Sept. 24–26, 1991, pp. 73–77.

N70-40966

Bumby, E., "Fly-by-Wire," Lewis Research Center Space Transportation System Technology Symposium, Vol. 6, July 1970, pp. 227–235.

N71-33066

Burke, M.E. and S.W. Gee, "NASA Flight Research Center Fly by Wire Flight Test Program," Space Shuttle Integrated Electronics Conference, Vol. 1, 1971, pp. 365–391.

N71-37608

Amies, G.E., C. Clark, C.L. Jones, and M.S. Smyth, "Survivable Flight Control System. Studies, Analyses, and Approach," AD-727763; AFFDL-TR-71-20-SUPPL-3; IR-1, Oct. 1971.

N71-37616

Kisslinger, R.L. and M.J. Wendl, "Survivable Flight Control System. Studies, Analyses, and Approach," AD-727762; AFFDL-TR-71-20-SUPPL-1; IR-1, May 1971.

N72-18040

Hooker, D.S., R.L. Kisslinger, G.R. Smith and M.S. Smyth, "Survivable Flight Control System. Studies, Analyses, and Approach," AD-733582; AFFDL-TR-71-20; IR-1, May 1971.

N72-75098

Amies, G.E., C. Cecil, C.L. Jones, and M.S. Smyth, "Survivable Flight Control System Studies, Analyses and Approach," AD-727763; AFFDL-TR-71-20-SUPPL-3; IR-3, May 1971.

N73-17009

Schoenman, R.L., "Fly-by-Wire and Artificial Stabilization Design," AGARD Stability and Control, Nov. 1972.

N73-27038

Kwasigroh, L.D., "Design of Fixed Gain Compensator System for the Longitudinal Axis of the C-141 Fly-by-Wire Aircraft," AD-760763; GGC/EE/71-12, Ms Thesis, Mar. 1973.

N73-28996

Mrazek, J.G. and R.O. Roberts, "Design, Development, and Flight Test of Multiplexing Hardware for Use in a Fly-by-Wire Flight Control System," AD-763111; FZE-1260; AFFDL-TR-73-43, May 1973.

N74-14769

Summers, R.R., "Application of the Aerospace Multiprocessor to the A-7D Flight Control System," AD-768382; GGC/EE/73-17, MS Thesis, June 1973.

N74-18715

Demarchi, J., N. Gianforcaro, R. Haning, R. Hupp, F. Malikowski, G. Maroscher, and B. Mathena, "Control-by-Wire Actuator Model Development for AFCAS," AD-772588; NR73H-107, Jan. 1974.

N74-20907

Dittenhauser, J.N., G.J. Fabian, and A.E. Schelhorn, "In-Flight Testing of a Flight Control Multiplex System in the NC-131 H Total In-Flight Simulator," AD-774049; CALSPAN-AK-5174-F-1; AFFDL-TR-73-11, Mar. 1973.

N74-29387

Sellner, J.A., "A Digital Flutter Mode Controller for Large Flexible Bodied Aircraft," AD-779763; GE/EE/74M-17, M.S. Thesis, Mar. 1974.

N74-30429

Rossing, R. and R. Hupp, *Digital Flight Control Actuation System Study*, NASA CR-132447, 1974.

N74-31443

Vandierendonck, A.J., K. Bassett, and E.E. Yore, "A Fly-by-Wire Flight Control System for Decoupled Manual Control," AGARD Advances in Control Systems, May 1974.

N74-31448

Baldwin, R.A., "Application of Digital Fly-by-Wire to Fighter/Attack Aircraft," *AGARD Advances in Control Systems*, May 1974.

N74-31450

Deets, Dwain A. and Kenneth J. Szalai, "Design and Flight Experience with a Digital Fly-by-Wire Control System in an F-8 Airplane," *AGARD Advances in Control Systems*, May 1974.

N74-31451

Onken, R., H.P. Joenck, L. Tacke, and M. Gottschlich, "Digital Fly-by-Wire Control System with Self Diagnosing Failure Detection," *AGARD Advances in Control Systems*, May 1974.

N74-34550

Osder, S. and D. Lefebvre, "Modification of Prototype Fly-by-Wire System to Investigate Fiber-Optic Multiplexed Signal Transmission Techniques," AD-783269; AFFDL-TR-74-10; REPT-71-0424-00-00, Mar. 1974.

N75-12967

Kaufman, H., Gurbux Alag, P. Berry, and S. Kotob, *Digital Adaptive Flight Controller Development*, NASA CR-2466, 1974.

N75-13881

Lair, D., J. Bunnell, H.B. Larson, and L.D. Roberts, "Military Transport (C-141) Fly-by-Wire Program, Vol. 1: Control Law Development, System Design and Piloted Simulation Evaluation," AD-786896; GAPD-2760-45554-VOL-1; AFFDL-TR-74-52-VOL-1, Apr. 1974.

N75-15602

"NASA Aeronautics," NF-46/5-74, 1974.

N75-16546

Gordon, C.K., *Requirements and Feasibility Study of Flight Demonstration of Active Controls Technology (ACT) on the NASA 515 Airplane*, NASA CR-132555, 1975.

N75-18245

“Description and Flight Test Results of the NASA F-8 Digital Fly-by-Wire Control System, NASA Symposium on Advanced Control Technology,” Los Angeles, CA, July 9–11, 1974. Also available as NASA TN-D-7843, 1975.

N75-18246

Jarvis, Calvin R., “An Overview of NASA’s Digital Fly-by-Wire Technology Development Program,” Description and Flight Test Results of the NASA F-8 Digital Fly-by-Wire Control System, Feb. 1975, pp. 1–12.

N75-18247

Deets, Dwain A., “Design and Development Experience with a Digital Fly-by-Wire Control System in an F-8C Airplane,” Description and Flight Test Results of the NASA F-8 Digital Fly-by-Wire Control System, Feb. 1975, pp. 13–40.

N75-18248

Lock, Wilton P., W.R. Petersen, and G.B. Whitman, “Mechanization of and Experience with a Triplex Fly-by-Wire Backup Control System,” Description and Flight Test Results of the NASA F-8 Digital Fly-by-Wire Control System, Feb. 1975, pp. 41–72.

N75-18249

Plumer, J.A., W.A. Malloy, and J.B. Craft, “The Effects of Lightning on Digital Flight Control Systems,” Description and Flight Test Results of the NASA F-8 Digital Fly-by-Wire Control System, Feb. 1975, pp. 73–92.

N75-18250

Bairnsfather, R.R., “Man-Rated Flight Software for the F-8 DFBW Program,” Description and Flight Test Results of the NASA F-8 Digital Fly-by-Wire Control System, Feb. 1975, pp. 93–126.

N75-18251

Szalai, Kenneth J., “Flight Test Experience with the F-8 Digital Fly-by-Wire System,” Description and Flight Test Results of the NASA F-8 Digital Fly-by-Wire Control System, Feb. 1975, pp. 127–180.

N75-18252

Krier, Gary E., “A Pilot’s Opinion of the F-8 Digital Fly-by-Wire Airplane,” Description and Flight Test Results of the NASA F-8 Digital Fly-by-Wire Control System, Feb. 1975, pp. 181–195.

N75-18274

Wittler, F.E., *Apollo Experience Report: Crew Station Integration. Vol. 3: Spacecraft Hand Controller Development*, NASA TN-D-7884, 1975.

N75-22334

Plumer, J.A., F.A. Fisher, and L.C. Walko, *Lightning Effects on the NASA F-8 Digital Fly-by-Wire Airplane*, NASA CR-2090, 1975.

N75-29015

Rediess, Herman A. and Kenneth J. Szalai, “Status and Trends in Active Control Technology,” NASA/University Conference on Aeronautics, 1975, pp. 273–322.

N75-29129

McGough, J., K. Moses, W. Platt, G. Reynolds, and J. Strole, "Digital Flight Control System Redundancy Study," AD-A006411; AFFDL-TR-74-83, Jul. 1974.

N75-30035

Mooij, H.A., "Handling Quality Criteria Development for Transport Aircraft with Fly-by-Wire Primary Flight Control Systems," *AGARD Impact of Active Control Technology on Airplane Design*, June 1975.

N75-30043

Abrams, C.R. and W.D. Weinstein, "The ASSET (Advanced Skewed Sensory Electronic Triad) Program," *AGARD Impact of Active Control Technology on Airplane Design*, June 1975.

N75-30045

Flannigan, J. and J. Emfinger, "Production Design Requirements for Fly by Wire Systems," *AGARD Impact of Active Control Technology on Airplane Design*, June 1975.

N75-30048

Gill, F.R. and P.W.J. Fullham, "The Hunter Fly-by-Wire Experiment: Recent Experience and Future Implications," *AGARD Impact of Active Control Technology on Airplane Design*, June 1975.

N75-30049

Szalai, Kenneth J. and Dwain A. Deets, "F-8 Digital Fly-by-Wire Flight Test Results Viewed from an Active Controls Perspective," *AGARD Impact of Active Control Technology on Airplane Design*, June 1975.

N75-30077

Diamond, E.D. and J.M. Davis, "Heavy-Lift Helicopter Flight Control System Design," *AGARD The Guidance and Control of V/STOL Aircraft and Helicopters at Night and in Poor Visibility*, May 1975.

N75-32104

Wiggins, D.A., "Hydraulic Controls for Active Flutter Suppression and Load Alleviation," *AGARD Flutter Suppression and Structural Load Alleviation*, July 1975.

N75-78255

DeMarchi, J.N. and R.K. Haning, "Control-by-Wire Modular Actuator Tests (APCAS)," AD-A006371; NR75H-1, Jan. 1975.

N76-13115

Pleckaitis, C.A. and D.C. Kandra, "Preliminary Guide for the Assessment of Fly-by-Wire High Reliabilities," AD-A013366; ECOM-4337, July 1975.

N76-14141

Hall, G.W. and R.E. Smith, "Flight Investigation of Fighter Side-Stick Force-Deflection Characteristics," AD-A013926; CALSPAN-AK-5280-F-8; AFFDL-TR-75-39, May 1975.

N76-17154

Seacord, C.L. and D.K. Vaughn, *Preliminary System Design Study for a Digital Fly-by-Wire Control System for an F-8C Aircraft*, NASA CR-2609, 1976.

N76-17155

Hartmann, Gary L., J.A. Huge, and R.C. Hendrick, *F-8C Digital CCV Flight Control Laws*, NASA CR-2629, 1976.

N76-19160

Mooij, H.A., "Handling Quality Criteria Development for Transport Aircraft with Fly-by-Wire Primary Flight Control Systems," NLR-MP-74022-U, AGARD Symposium on Impact of Active Control Technology on Airplane Design, Paris, France, Oct. 14-17, 1974.

N76-21219

Kubbat, W., "Quadraredundant Digital Flight Control System for CCV Application," MBB-UFE-1116-O, Oct. 1974.

N76-24275

Metzdorff, W., "Reliability of Digital Electronic Fly-by-Wire Systems," ESA-TT-243; DLR-FB-73-85, Feb. 1976. Translated into English.

N76-25210

Ahern, D.B., "Voter/Monitor Development for a Digital Flight Control System," AD-A019856; GE/EE/75D-10, MS Thesis, Dec. 1975.

N76-29296

Burkhardt, W., E. Zehner, and W. Duerr, "Benefits of Flight Simulation Work for the Definition, Layout, and Verification with Hardware in the Loop of the MRCA Flight Control System," *AGARD Flight Simulation/Guidance Systems Simulation*, June 1976.

N76-29660

Sensburg, O., "Interaction Between Aircraft Structure and Command and Stability Augmentation System," *AGARD Structural Identification on the Ground and in Flight Including Command and Stability Augmentation System Interaction*, June 1976, pp. 41–53.

N76-31137

Hunter, J.E. "Survivable Flight Control System Fly-by-Wire Development and Flight Test," *Advanced Control Technology and its Potential for Future Transport Aircraft*, Aug. 1976, pp. 41–56.

N76-31138

Anderson, C.A., "Development of an Active Fly-by-Wire Flight Control System," *Advanced Control Technology and its Potential for Future Transport Aircraft*, Aug. 1976, pp. 57–71.

N76-31140

Jarvis, Calvin R., "An Overview of NASA's Digital Fly-by-Wire Technology Development Program," *Advanced Control Technology and its Potential for Future Transport Aircraft*, Aug. 1976, pp. 93–103.

N76-31141

Deets, Dwain, A., "Design and Development Experience with a Digital Fly-by-Wire Control System in an F-8C Airplane," *Advanced Control Technology and its Potential for Future Transport Aircraft*, Aug. 1976, pp. 105–132.

N76-31142

Lock, Wilton P., W.R. Petersen, and G.B. Whitman, "Mechanization of and Experience with a Triplex Fly-by-Wire Backup Control System," *Advanced Control Technology and its Potential for Future Transport Aircraft*, Aug. 1976, pp. 133–163.

N76-31144

Szalai, Kenneth, J., "Flight Test Experience with the F-8 Digital Fly-by-Wire System," *Advanced Control Technology and its Potential for Future Transport Aircraft*, Aug. 1976, pp. 199–252.

N76-31145

Krier, Gary E., "A Pilot's Opinion of the F-8 Digital Fly-by-Wire Airplane," *Advanced Control Technology and its Potential for Future Transport Aircraft*, Aug. 1976, pp. 253–267.

N76-31146

Minott, G.M., J.B. Peller, and K.J. Cox, "Space Shuttle Digital Flight Control System," *Advanced Control Technology and its Potential for Future Transport Aircraft*, Aug. 1976, pp. 271–294.

N76-31176

Plumer, J.A., W.A. Malloy, and J.B. Craft, "The Effects of Lightning on Digital Flight Control Systems," *Advanced Control Technology and its Potential for Future Transport Aircraft*, Aug. 1976, pp. 989–1008.

N76-72135

Larson, H.B., L.R. Genaw, and L.D. Roberts, "Military Transport (C-141) Fly-by-Wire Program. Vol. 2: Hardware, Installation, and Flight Test," AD-786897/9; GAPD-2760-45554-VOL-2; AFFDL-TR-74-52-VOL-2, June 1974.

N77-11065

DeMarchi, J.N. and R.K. Haning, "Design and Fabrication of an 8000 PSI Control-by-Wire Actuator for Flight Testing in a T-2 C Airplane," AD-A024487; NR76H-1; NADC-76049-30, Jan. 1976.

N77-19063

Wood, N.E., E.F. Echols, and J.H. Ashmore, "Electromechanical Actuation Feasibility Study," AD-A031146; AFFDL-TR-76-42, May 1976.

N77-22811

Stein, Gunter, Gary L. Hartmann, and R.C. Hendrick, "Adaptive Control Laws for F-8 Flight Tests," *Systems Reliability Issues for Future Aircraft*, 1975, pp. 27–49.

N77-22813

Montgomery, R.C., "Failure Detection and Control-System Reconfiguration: Past, Present, and Future," *Systems Reliability Issues for Future Aircraft*, 1975, pp. 69–78.

N77-25076

Szalai, Kenneth J., Philip G. Felleman, Joseph Gera, and Richard D. Glover, "Design and Test Experience with a Triply Redundant Digital Fly-by-Wire Control System," *AGARD Integrity in Electronic Flight Control Systems*, Apr. 1977.

N77-28140

McManus, B. and J. Gonsalves, "The CH-47C Vulnerability Modification Program: Fly-by-Wire Backup Demonstration," AD-A030682; D210-11046-1; USAAMRDL-TR-76-22, Aug. 1976.

N77-31179

Mooij, H.A., "Handling Quality Criteria Development for Transport Aircraft with Fly-by-Wire Primary Control Systems," NLR-TR-74141-U, May 1977.

N77-33202

Hartmann, Gary L., C.A. Harvey, Gunter Stein, D.N. Carlson, and R.C. Hendrick, *F-8C Adaptive Flight Control Laws*, NASA CR-2880, 1977.

N78-13074

Cunningham, T., D. Carlson, R.C. Hendrick, D. Shaner, and Gary L. Hartmann, "Fault Tolerant Digital Flight Control with Analytical Redundancy," AD-A045671; AFFDL-TR-77-25, May 1977.

N78-14056

Lackey, J.A., "Military Transport (C-141) Fly-by-Wire Program," AD-A046163; ASD-TR-77-8, Mar. 1977.

N78-16065

Jenney, G.D., "Research and Development of Aircraft Control Actuation Systems. The Development of a Direct Drive Fly-by-Wire Control System and Evaluation of a Force Sharing Control System and Evaluation of a Force Sharing Fly-by-Wire Actuator," AD-A047283; AFFDL-TR-77-91, Sept. 1977.

N78-17072

Maciolek, J.R. and K. Wallischek, "Preliminary Design Study of an Integrated Tail Rotor Servo Power Module," AD-A047678; SER-50798; USAAMRDL-TR-77-20, Sept. 1977.

N78-19114

Hendrick, R.C., "Electronics Plus Fluidics for V/STOL Flight Control," Naval Postgraduate School Proc. of the Navy/NASA VSTOL Flying Qualities, Aug. 1977, pp. 363-386.

N78-22076

Description and Theory of Operation of the Computer By-Pass System for the NASA F-8 Digital Fly-by-Wire Control System, NASA CR-144865, 1978.

N78-22113

Niven, A.J., "Heavy Lift Helicopter Flight Control System, Vol. 1: Production Recommendations," AD-A050618; D301-10322-1; USAAMRDL-TR-77-40A, Sept. 1977.

N78-25966

Mekel, R. and S. Nachmias, *An Adaptive Learning Control System for Aircraft*, NASA CR-156930, 1978.

N78-27140

Colgate, J.A., "INTERAC: an Interactive Software Package for Direct Digital Control Design," AD-A053446; AFIT/GGC/EE/77D-1, Dec. 1977.

N78-31121

Simmons, R.L., "The Terrain Following Task for the Advanced Tactical Fighter Using Discrete Optimal Control," AD-A055196; AFIT/GE/EE/77-39, M.S. Thesis, Dec. 1977.

N78-31818

Smith, T.B., A.L. Hopkins, W. Taylor, R.A. Ausrotos, J.H. Lala, L.D. Hanley, and J.H. Martin, *A Fault-Tolerant Multiprocessor Architecture for Aircraft, Vol. 1: Topical Report*, NASA CR-3010, July 1978.

N79-12076

Dunn, J.L., "Testing the F-18 at the US Naval Air Test Center," AD-A058036; NATC-TM-78-5-SA, Aug. 1978.

N79-14109

Szalai, Kenneth J., Calvin R. Jarvis, Gary E. Krier, Vincent A. Megna, L.D. Brock, and R.N. O'Donnell, *Digital Fly-by-Wire Flight Control Validation Experience*, NASA TM-72860, 1978.

N79-16865

Kurzahls, P.R., "Active Controls in Aircraft Design. Executive Summary," FMP Symposium on Stability and Control, Ottawa, Oct. 1978.

N79-16866

Duc, J.M., "Control Configured Vehicle Design Philosophy," *AGARD Active Controls in Aircraft Design*, Nov. 1978.

N79-16867

Harris, R.B. and W.W. Rickard, "Active-Control Design Criteria," *AGARD Active Controls in Aircraft Design*, Nov. 1978.

N79-16868

Burns, B.R.A., "Control-Configured Combat Aircraft," *AGARD Active Control in Aircraft Design*, Nov. 1978.

N79-16869

Anderson, C.A., "F-16 Multi-National Fighter," *AGARD Active Controls in Aircraft Design*, Nov. 1978

N79-19007

Hogan, D. and J.E. Rinde, "Direct Drive Control Valve for Fly-by-Wire Flight Control System Actuators," AD-A062030; ACS-11595; AFFDL-TR-78-32, Mar. 1978.

N79-20014

Belcher, G., P.A. Daniell, and E.M. Scott, "Digital Flight Control System Architecture and Implementation," *AGARD The Impact of Integrated Guidance and Control Technology on Weapons Systems Design*, Dec. 1978.

N79-20015

Bird, M.W., W.L. Young, L. Addis, and G.L. Comegys, "Development of the Integrated Flight Trajectory Control Concept," *AGARD The Impact of Integrated Guidance and Control Technology on Weapons Systems Design*, Dec. 1978.

N79-20016

Kubbat, W.J. and G.A. Napjus, "Redundant Strapdown Navigation, Guidance, and Control of a Control Configured Vehicle," *AGARD The Impact of Integrated Guidance and Control Technology on Weapons Systems Design*, Dec. 1978.

N79-20022

Ramage, J.K. and F.R. Swortzel, "Design Considerations for Implementing Integrated Mission-Tailored Flight Control Modes," *AGARD The Impact of Integrated Guidance and Control Technology on Weapons Systems Design*, Dec. 1978.

N79-23065

Harris, R.B. and W.W. Rickard, "Active Control Transport Design Criteria," *AIAA J. of Aircraft* (6663), Sept. 1979.

N79-30224

Cazanave, A. and J. Irvoas, "Results Related to Simulated and In-Flight Experimentation with an Electric Flight Control System that can be Generalized, *AGARD Stability and Control*, May 1979. In French.

N79-30231

Ramage, J.K. and J.W. Morris, "Design Considerations for Reliable FBW Flight Control," *AGARD Stability and Control*, May 1979.

N79-30238

Gibson, J.C., "Flying Qualities and the Fly-by-Wire Aeroplane," *AGARD Stability and Control*, May 1979.

N79-31220

Smith, J.W., *Analysis of a Lateral Pilot-Induced Oscillation Experiences on the First Flight of the YF-15 Aircraft*, NASA TM-72867, 1979.

N80-14026

Watson, J.H., W.J. Yousey, and J.M. Railey, "Redundancy Management Considerations for a Control-Configured Fighter Aircraft Triplex Digital Fly-by-Wire Flight Control System," *AGARD Advances in Guidance and Control Systems Using Digital Technology*, Aug. 1979.

N80-14141

Beh, H., U. Korte, and G. Loebert, "Stability and Control Aspects of the CCV-F104G," MBB-UFE-1447(O), AGARD Flight Mechanics Panel Meeting on Stability and Control, Ottawa, Canada, Sept. 25–28, 1978.

N80-15158

Moynes, J.F. and W.E. Nelson, Jr., "Flaperon Control: the Versatile Surface for Fighter Aircraft," *AGARD Aerodynamic Characteristics of Controls*, Sept. 1979.

N80-21340

Maffre, J.C. and Y. Negre, "Experimentation of a Generalizable Fly-by-Wire Control System on the Concorde Aircraft," Von Karman Institute for Fluid Dynamics Active Control Technology, Vol. 1, 1978.

N80-21353

Petit, J.P., "Flight Testing of Several Control Laws of a Fly-by-Wire System," Von Karman Institute for Fluid Dynamics Active Control Technology, Vol. 2, 1978.

N80-23330

Kirszenblat, A., "Definition of a Two-Level Control System for Nonlinear Motion of an Aircraft," ONERA-P-1979-7, Feb. 1980. Translated into English from "Calcul d'un Systeme de Commande a Deux Niveaux du Movement non Lineaire d'un Avion."

N80-24327

Kohnhorst, L.K. and M.A. Magnacca, "Flight Verification of Direct Digital Drive for an Advanced Flight Control Actuation System (AFCAS) in the T-2C Aircraft," AD-A081925; NR79H-97; NAVAIRD-EVCEN-78207-60, Nov. 1979.

N80-28375

Black, G.T. and D.J. Moorehouse, "Flying Qualities Design Requirements for Sidestick Controllers," AD-A085085; AFFDL-TR-79-3126, Oct. 1979.

N80-30020

Ettinger, R.C., "The Operational Roles of the F-16," *AGARD Operational Roles, Aircrew Systems and Human Factors in Future High Performance Aircraft*, Mar. 1980.

N80-30027

Kulwicki, P.V., "Addressing Human Factor Options in Conceptual Design," *AGARD Operational Roles, Aircrew Systems and Human Factors in Future High Performance Aircraft*, Mar. 1980.

N80-31409

Lewis, R.A., J. Gray, and N.E. Wood, "Electromechanical Actuation Development," AD-A085847; REPT-80-16763; AFWAL-TR-80-3024, Feb. 1980.

N80-32375

Heimbold, R.L., *Applications of Advanced Electric/Electronic Technology to Conventional Aircraft*, NASA CR-163576, 1980.

N80-33417

Stengel, R.F., J.C. Seat, and G.E. Miller, "Digital Flight Control Research Using Microprocessor Technology," AD-A089147; MAE-1425; ONR-CR-300-003-1; ATR-1, May 1980.

N80-70900

Osborne, H.C., "Design and Analysis of 777 Fly-by-Wire Control System," AD-A073342; TRW-TE-28600-AR-011-01; SAMSO-TR-79-14, Apr. 1976.

N81-11274

Szalai, Kenneth J., Richard R. Larson, and Richard D. Glover, "Flight Experience with Flight Control Redundancy Management," *AGARD Fault Tolerance Design and Redundancy Management Technology*, Sept. 1980.

N81-13976

Jenney, G.D., "Research and Development of Control Actuation Systems for Aircraft, Vol. 2: the Evaluation of a Force Sharing and an Active On-Line Fly-by-Wire Actuation System," AD-A091559; AFFDL-TR-79-3117-VOL-2, July 1980.

N81-17100

Haskins, D.E., "Fault-Tolerant Actuation Concept for a Research Test Aircraft," AD-A093113; NADC-79125-60, Oct. 1980.

N81-19001

Advanced Aerodynamics and Active Controls, 4th Annual Status Review of the NASA Aircraft Energy Efficiency (ACEE) Energy Efficient Transport Program, Mountain View, CA, Oct. 7-9, 1980. NASA CP-2172, 1981.

N81-19006

Jarvis, Calvin R. and Kenneth J. Szalai, "Ground and Flight Test Experience with a Triple Redundant Digital Fly by Wire Control," *Advanced Aerodynamics and Active Controls*, Feb. 1981, pp. 67-84.

N81-19037

Keyser, G.L., Jr., "A Pilot's Subjective Analysis of a Cockpit Display of Traffic Information (CDTI)," *The 1980 Aircraft Safety and Operating Problem, Part 1*, Mar. 1981, pp. 29-49.

N81-19134

Kohnhorst, L.L. and D.A. Magnacca, "Design and Test of a Hydra-Optic Flight Control Actuation System (HOFCAS) Concept," AD-A094688; NR80H-87; NADC-79156-60, Dec. 1980.

N81-21085

Carlock, G.W. and K.F. Guinn, "Fly-by-Wire Versus Dual Mechanical Controls for the Advanced Scout Helicopter: Quantitative Comparison," AD-A096089; USAAVRADCOM-TR-80-D-10, Jan. 1981.

N81-23064

Alexander, H.R., K.E. Smith, M.A. McVeigh, P.G. Dixon, and B.L. McManus, *Preliminary Design Study of Advanced Composite Blade and Hub and Nonmechanical Control System for the Tilt-Rotor Aircraft, Vol. 1: Engineering Studies*, NASA CR-152336, 1979.

N81-23065

Preliminary Design Study of Advanced Composite Blad and Hub and Non-mechanical Control System for the Tilt-Rotor Aircraft, Vol. 2: Project Planning Data, NASA CR-152336, 1980.

N81-24108

McManus, B.L. and K.H. Landis, "Advanced Scout Helicopter (ASH) Fly-by-Wire Control System Preliminary Design, Vol. 1: System Design and Analysis," AD-A098155; D210-11560-1-VOL-1; US-AAVRADCOM-TR-81-D-9A, Mar. 1981.

N81-33200

Wallenberg, R.F., J.A. Birken, and O. Milton, "Advanced Composite Aircraft Electromagnetic Design and Synthesis," SAND-81-1278C; CONF-810816-1; SRC-TR-81-1170, IEEE International Symposium on Electromagnetic Compatibility Record, Boulder, CO, Aug. 18–20, 1981.

N82-10107

Lange, H.H., "Flight Test Results of the Model Simulation Controller for the HFB 320 for In-Flight Simulation of the A310 Airbus," DFVLR-Mitt-79-13, Apr. 1981. Translated into English.

N82-12079

Brock, L.D. and H.A. Goodman, *Reliability Analysis of the F-8 Digital Fly-by-Wire System*, NASA CR-163110, 1981.

N82-15030

Meuleners, R.J., *XV-15 Tilt Rotor Fly-by-Wire Collective Control Demonstrator Development Specifications*, NASA CR-166262, 1981.

N82-17091

Wright, S.M. and J.G. Brown, "The Development of Asynchronous Multiprocessor Concepts for Flight Control System Applications," *AGARD Tactical Airborne Distributed Computing and Networks*, Oct. 1981.

N82-23218

Morgan, J.M., "Some Piloting Experiences with Multifunction Isometric Side-Arm Controllers in a Helicopter," *Helicopter Handling Qualities*, Apr. 1982, pp. 109–119.

N82-25522

Olsen, R.B., "Dynamic Seals for Advanced Hydraulic Systems," AD-A111996; AFWAL-TR-81-2066, Aug. 1981.

N82-33401

“Flight Tests of a GE and DCI Direct Drive Fly by Wire Flight Control System,” AD-A117244; AFWAL-TR-82-3035, June 1982.

N82-76517

Moynes, J.F., “Appendix to Background Information and User Guide for MIL-F-94900,” AD-A094717; AFFDL-TR-74-116-SUP-1; NOR-80-35, Jan. 1980.

N83-10058

Gibson, J.C., “Piloted Handling Qualities Design Criteria for High Order Flight Control Systems,” *AGARD Criteria for Handling Qualities of Military Aircraft*, June 1982.

N83-10060

Mathe, P.L., “Fly by Wire Control: Towards New Norms for Juding Flight Qualities. An Example: the Mirage 2000,” *AGARD Criteria for Handling Qualities of Military Aircraft*, June 1982. In French.

N83-10102

DeWinter, G., “Antitank Missiles Night Firing from Aerospatiale Helicopters,” SNIAS-822-320-101, 12.4, AAAF 8th European Rotorcraft Forum, Aix-en-Provence, France, Aug. 31–Sept. 3, 1982.

N83-13095

Harney, Paul F., *Real-Time Data Display for AFTI/F-16 Flight Testing*, NASA TM-84899, 1982.

N83-13113

Hartmann, Gary L., J.E. Wall, Jr., E.R. Rang, H.P. Lee, R.W. Schulte, and W.K. Ng, *Advanced Flight Control System Study*, NASA CR-163117, 1982.

N83-13984

Niederhofer, K.H. and R.M. Rieger, “A Bidirectional Fiber Optic Link for Guided Missiles,” MBB-UA-609-81, IDEE '82 Conference, Hanover, Germany, May 18–20, 1982.

N83-15316

McGough, J., K. Moses, and J.F. Klafin, *Advanced Flight Control System Study*, NASA CR-163120, 1982.

N83-22094

McRuer, Duane, “Progress and Pitfalls in Advanced Flight Control Systems,” *AGARD Advances in Guidance and Control Systems*, Jan. 1983.

N83-22111

Smith, T.D., C.J. Yeo, and R.E.W. Marshall, “Ground and Flight Testing on the Fly-by-Wire Jaguar Equipped with a Full Time Quadruplex Digital Integrated Flight Control System,” *AGARD Advances in Guidance and Control Systems*, Jan. 1983.

N83-23316

Butler, Geoff F., Malcolm J. Corbin, S. Mephram, James F. Stewart, and Richard R. Larson, *NASA/RAE Collaboration on Nonlinear Control using the F-8C Digital Fly-by-Wire Aircraft*, NASA TM-84296, 1983.

N83-31196

Evans, R.H. and J. Bishop, “Induced Transients in a Simulated Lightning Test of the Fly-by-Wire Jaguar Aircraft,” IALC-8, FAA 8th International Aerospace and Ground Conference on Lightning and Static Electricity, June 1983.

N83-31234

Doggett, P.A. and I.P. MacDiarmid, "Lightning Protection Design and Lightning Threat Flight Clearance of a Fly-by-Wire Flight Control System for an Unstable Aircraft," IALC-8, FAA 8th International Aerospace and Ground Conference on Lightning and Static Electricity, June 1983.

N83-76852

Murphy, M.R. and D.E. Haskins, "A Parallel Fly-by-Wire Helicopter Control System," AD-A126796; NADC-80132-60, Mar. 1982.

N83-78231

Boldt, T.R., C.C. Chenoweth, I.S. Mehdi, E.T. Raymond, L. Witonsky, and R.F. Yurczyk, "Airplane Actuation Trade Study," AD-A117403; AFWAL-TR-81-3153; D180-25487-3, Jan. 1982.

N84-15091

Kneeland, B.T., W.G. McNamara, and C.L. White, "The Impact of the F/A-18 Aircraft Digital Flight Control System and Displays on Flight Testing and Safety," *AGARD Flight Mechanics and System Design Lessons from Operational Experience*, Oct. 1983.

N84-15092

Droste, C.S., "Lessons Learned in the Development of the F-16 Flight Control System," *AGARD Flight Mechanics and System Design Lessons from Operational Experience*, Oct. 1983.

N84-15093

Ladel, J. and J. Bastidon, "The Mirage 2000: Fly by Wire Control and Safety," *AGARD Flight Mechanics and System Design Lessons from Operational Experience*, Oct. 1983. In French.

N84-15095

Snelling, K.S., "Certification Experience of the Jaguar Fly-by-Wire Flight Control System," *AGARD Flight Mechanics and System Design Lessons from Operational Experience*, Oct. 1983.

N84-16212

Lapins, M., R.P. Martorella, R.W. Klein, R.C. Meyer, and M.J. Sturm, *Control Definition Study for Advanced Vehicles*, NASA CR-3738, 1983.

N84-21557

Hogan, D.T., "Survivability Design Guidelines for Fly-by-Wire Control Systems Development," AD-A138211, Dec. 1983.

N84-22583

Rediess, Herman A. and E.C. Buckley, *Technology Review of Flight Crucial Flight Controls*, NASA CR-172332, 1984.

N84-31129

Robb, J.H., P.J. Boatman, and P.H. Lang, "Application of JOVIAL (J-73) to Digital Flight Controls," AD-P003525, AFSC 2nd Avionics Standardization Conference Proceedings, Vol. 1, Nov. 1982, pp. 93-100.

N84-70503

Lockheed Horizons, Issue 9, Winter 1981/82.

N85-10932

Szalai, Kenneth J., "Role of Research Aircraft in Technology Development," AIAA 84-2473, AIAA/AHS/ASEE Aircraft Design Systems and Operation Meeting, San Diego, CA, Oct. 31–Nov. 2, 1984. Also available as NASA TM-85913, 1984.

N85-16861

Cronin, M.J., A.P. Hays, F.B. Green, N.A. Radivcich, C.W. Helsley, and W.L. Rutchik, *Integrated Digital/Electric Aircraft Concepts Study*, NASA CR-3841, 1985.

N85-21175

Fielding, J.P. and X.Z. Meng, "Some Aspects of the Design of a Fly-by-Wire Flying Control System for a Supersonic V/STOL Fighter Aircraft," COLL-AERON-8413, Mar. 1984.

N85-22355

Adam, V. and W. Lechner, "Guidance and Control Research Flight Testing with HFB 320 Test Aircraft," *AGARD Ground and Flight Testing for Aircraft Guidance and Control*, Dec. 1984.

N85-25259

Courtheyn, T.L., "Multivariable Control Law Design for the X-29 Aircraft," AD-A151828; AFIT/GE/ENG/84D-21, Dec. 1984.

N85-26653

Snell, R.J.V., "A Method of Estimating Aircraft Attitude from Fly by Wire Flight Control System Data," *AGARD Cost Effective and Affordable Guidance and Control Systems*, Feb. 1985.

N85-26740

Daley, E., "An Update on Experience on the Fly by Wire Jaguar Equipped with a Full-Time Digital Flight Control System," *AGARD Technical Evaluation Report on the Flight Mechanics Symposium on Active Control Systems*, Mar. 1985.

Toles, R.D., D.R. McMonagle, D.C. Anderson, and J.H. Watson, "Application of AFTI/F-16 Task-Tailored Control Modes in Advanced Multirole Fighters," *AGARD Active Control Systems: Review, Evaluation and Projections*, Mar. 1985.

N85-27889

Whitaker, A.B. and J. Chin, "X-29 Digital Flight Control System Design," *AGARD Active Control Systems: Review, Evaluation and Projections*, Mar. 1985.

N85-27893

Daley, E., "An Update of Experience on the Fly-by-Wire Jaguar Equipped with a Full-Time Digital Flight Control System," *AGARD Active Control Systems: Review, Evaluation and Projections*, Mar. 1985.

N85-27895

Moran, W.A., "Operational and Developmental Experience with the F/A-18A Digital Flight Control System," *AGARD Active Control Systems: Review, Evaluation and Projections*, Mar. 1985.

N85-27905

Vangool, M., "How to Handle Failures in Advanced Flight Control Systems of Future Transport Aircraft," *AGARD Active Control Systems: Review, Evaluation and Projections*, Mar. 1985.

N85-27908

Kaul, H.J., F. Sella, and M.J. Walker, "The Flight Control System for the Experimental Aircraft Programme (EAP) Demonstration Aircraft," *AGARD Active Control Systems: Review, Evaluation and Projections*, Mar. 1985.

N85-29973

Sexton, G.A., *Crew Systems and Flight Station Concepts for a 1995 Transport Aircraft*, NASA CR-166068, 1983.

N86-14277

Integrated Application of Active Controls (IAAC) Technology to an Advanced Subsonic Transport Project: Test Act System Description, NASA CR-172221, 1983.

N86-19325

Deets, Dwain A., Wilton P. Lock, and Vincent A. Megna, *Flight Test of a Resident Backup Software System*, NASA TM-86807, 1986.

N86-20401

Hills, A.D., "Digital Fly-by-Wire Experience," *AGARD Fault Tolerant Hardware/Software Architecture*, Sept. 1985.

N86-26343

Vangool, M.F.C. and W.W. Rickard, "Failures in Advanced Flight Control Systems of Future Transport Aircraft," NLR-TR-84108-U; ETN-86-96983, Nov. 1984.

N86-28960

Mayanagi, M., "Optical Technology for Flight Control Systems," *Society for Aeronautical and Space Sciences*, Vol. 32, No. 369, Oct. 1984, pp. 583–593. In Japanese, translated into English. Also available as NASA TM-88400, 1984.

N86-29813

Larson, Richard R., *Flight Control System Development and Flight Test Experience with the F-111 Mission Adaptive Wing Aircraft*, NASA TM-88265, 1986.

N86-32990

Melvin, W.W., "Pilot Interface with Fly by Wire Systems," 21st Annual Conference on Manual Control, Moffett Field, CA, May 1986.

N87-11487

DeBellis, W.B. and K.A. Christ, "Anthropometric Considerations for a Four-Axis Side-Arm Flight Controller," AD-A168135; HEL-TN-2-86, Feb. 1986.

N87-13437

Abbink, F.G. and E.W. Pijpers, "Trends in Airliner Flight Deck Design," NLR-MP-85007-U; B8668291; ETN-86-98656, Symposium on Developments in the Cockpit, Haarlem, The Netherlands, Mar. 21, 1986.

N87-13447

Talley, W.G., J. Minch, and G.D. Jenney, "Test Evaluation of a Reconfigurable Fault-Tolerant Fly-by-Wire Actuation System," AD-A172455; AFWAL-TR-86-3019, July 1986.

N87-19402

Schuring, J., "Design and Experimental Verification of a Calculation Method for Frequency Response Analysis of Digital Control Systems in a Continuous Environment," NLR-TR-85090-U; B8678397; ETN-87-99275, June 1985.

N87-19407

Ridge, P.E. and V.X. Tran, "A Digital Simulation of the Failure Performance of a Multiplex Actuator," BU-337; ETN-87-99200, June 1985.

N87-19408

Barron, S.T.J. and D.J. Bennett, "Torque Motor Actuation System," BU-339; ETN-87-99202, June 1986.

N87-23647

Vadrot, R., "Simulation of Fly-by-Wire Control for Civil Transport Aircraft at the French Centre D'Essais en Vol," *AGARD Flight Simulation*, Sept. 1986. In French.

N87-23658

Nicholas, O.P., J.A. Giles, and D.A. Williams, "Development of In-Flight Simulation Aircraft for Research and Training Applications in UK," *AGARD Flight Simulation*, Sept. 1986.

N87-23659

Morgan, J.M., "Airborne Simulation at the National Aeronautical Establishment of Canada," *AGARD Flight Simulation*, Sept. 1986.

N87-28532

Leydendecker, Hagen, "The Model Inverse as an Element of a Predetermined Control System for Helicopters," *Modeling of Systems for Aircraft Guidance and Air Traffic Control for Research, Development, and Evaluation*, Nov. 1986, pp. 19–38. In German.

N88-10805

Deets, Dwain A., Wilton P. Lock, and Vincent A. Megna, "Flight Test of a Resident Backup Software System," *AGARD Fault Tolerant Considerations and Methods for Guidance and Control Systems*, July 1987.

N88-16659

"Recent Sikorsky R and D Progress," *NASA/Army Rotorcraft Technology, Vol. 3: Systems Integration, Research Aircraft, and Industry*, Feb. 1988, pp. 1395–1449.

N88-23763

Integrated Application of Active Controls (IAAC) Technology to an Advanced Subsonic Transport Project: Program Review, NASA CR-3880, 1986.

N88-27204

Boos, Franz, Hans-Juergen Maier, and Rudolf Scharpf, "Computer System for the Primary Fly-by-Wire Control of Civil Transport Aircraft (Experimental System)," FBW-TB-2086/88; ETN-88-92963, Apr. 1988. In German with an English summary.

N89-24901

Manoharan, L.C. and S. Muthuvel, "An Intelligent Fiberoptic Data Bus for Fly-by-Light Applications," NAL-TM-SE-8707, Nov. 1987.

N89-26862

Carl, U.B., "Electrical Primary Flight Control System (Fly by Wire). Flight Control Systems of New Technology," MBB-UT-122/88; ETN-89-94615, Dec. 1987. In German with an English summary.

N90-10862

Lange, H.H., D. Rohlf, A. Zach, and H.L. Meyer, "ATTAS Flight Testing Experience," *AGARD Flight Test Techniques*, July 1989.

N90-10869

Menso, G. and G. Gamalero, "In Flight Relight Tests on AM-X Single Engine Fly-by-Wire Aircraft," *AGARD Flight Test Techniques*, July 1989.

N90-11748

Fisher, V.A., "Engine Controls for the 1990's," PNR90546; ETN-89-95544, SBAC (Multi Purpose Combat Aircraft), Belgrade, Yugoslavia, Apr. 13-14, 1987.

N90-15050

Bonafe, J.L., "How to Fly Windshear Using the Fly-by-Wire Concept," *AGARD Flight in Adverse Environmental Conditions*, Sept. 1989.

N90-16753

Rogers, Walter L., "Applications of Modern Control Theory Synthesis to a Super-Augmented Aircraft," AD-A215431, June 1989.

N90-26010

Chetty, Shyam and F. Henschel, "Model Following Control System Design: Preliminary ATTAS In-Flight Simulation Test Results," PD-FC-9003, Feb. 1990.

N90-27625

Sudduth, R., "Start-up Built-in Test for the DISCUS Fault Tolerant, Fly-by-Wire Computer System," CASI HC A03/MF A06; DLR, VB-PL-DO, *Aircraft Integrated Monitoring Systems*, Jan. 1990, pp. 163-184.

N90-27748

Nguyen, Viet H., John T. Nishimi, Thomas H. Payne, and Earl W. Woosley, "Space Shuttle Descent Flight Verification by Simulation: a Challenge in Implementing Flight Control System Robustness," *AGARD Space Vehicle Flight Mechanics*, June 1990.

N90-29401

Zach, Adolf and Wilhem Reese, "Procedure for Calibrating Fly-by-Wire Control Chains of the flying Test-bed ATTAS," DLR-MITT-90-02; ETN-90-97537; AD-B148068L, 1990. In German with an English summary.

N91-12688

Dennis, R.W. and A.D. Hills, "A Fault Tolerant Fly by Wire System for Maintenance Free Applications," CASI HC A03/MF A03, *AGARD Fault Tolerant Design Concepts for Highly Integrated Flight Critical Guidance and Control Systems*, Apr. 1990.

N91-17560

Spitzer, Cary R., "Digital Avionics: a Cornerstone of Aviation," CASI HC A03/MF A04 CSCL 09/2, NASA Formal Methods Workshop, Nov. 1990.

N91-23053

Sundberg, Gale R., "Civil Air Transport: a Fresh Look at Power-by-Wire and Fly-by-Light," *NASA Technology 2000*, Vol. 1, Mar. 1991, pp. 263–267.

N91-23112

Renzo, Bava, "Flying Qualities Experience on the AMX Aircraft," CASI HC A03/MF A03, *AGARD Flying Qualities*, Feb. 1991.

N91-23113

Gibson, J.C., "The Development of Alternate Criteria for FBW Handling Qualities," *AGARD Flying Qualities*, Feb. 1991.

N91-23119

Nicholas, O.P., H.T. Huynh, W.P. DeBoer, J.A.J. Vanengelen, and D. Shafranek, "Handling Qualities Guidelines for the Design of Fly-by-Wire Control Systems for Transport Aircraft," *AGARD Flying Qualities*, Feb. 1991.

N91-23122

Morgan, J. Murray, "An Initial Study into the Influence of Control Stick Characteristics on the Handling Qualities of a Fly-by-Wire Helicopter," *AGARD Flying Qualities*, Feb. 1991.

N91-23123

Baillie, S.W. and S. Kereliuk, "An Investigation into the Use of Side-Arm Control for Civil Rotorcraft Application," *AGARD Flying Qualities*, Feb. 1991.

N91-26797

Cohen, Gerald, C., Gene Fisher, Deborah Frincke, and Dave Wolber, *Structured Representation for Requirements and Specifications*, NASA CR-187522, 1991.

N91-32643

Crofts, David, "Lightning Protection of Full Authority Digital Electronic Systems," CASI HC A02/MF A06 CSCL 09/3, The 1991 International Aerospace and Ground Conference on Lightning and Static Electricity, Vol. 1, Aug. 1991.

N91-32853

Windley, P., K. Levitt, and Gerald C. Cohen, *The Formal Verification of Generic Interpreters*, NASA CR-4403, 1991.

N92-20849

Attar, Moshe, "Some Interesting Phenomena from Lavi Test Flights Relating to Aircraft Stability and Control," IAITIC-91-1017; ITN-92-85137, Mar. 1991.

N92-29616

Vanengelen, J.A.J., "Results of a Flight Simulator Experiment to Establish Handling Quality Guidelines for the Design of Future Transport Aircraft," NLR-MP-88044-U; GARTEUR-TP-051; ETN-92-91514, AIAA Flight Mechanics Conference, Minneapolis, MN, Aug. 15–17, 1988.

N92-31868

Agami, D. and H. Yahia, "FCS Skewed Sensors Array: Practical Considerations," 31st Israel Annual Conference on Aviation and Astronautics, Feb. 22, 1990, pp. 44–50.

APPENDIX C

SUPERCritical WING/AIRFOIL BIBLIOGRAPHY

A72-25583

Palmer, W.E., "Thick-Wing Flight Demonstrations," SAE 720320, National Business Aircraft Meeting, Wichita, KS, Mar. 15–17, 1972.

A72-41534

Bauer, F., P.R. Garabedian, and D. Korn, "A Theory of Supercritical Wing Sections, with Computer Programs and Examples," *Economics and Mathematical Systems*, Vol. 66, 1972.

A73-14377

Eberle, A. and P. Sacher, "Transonic Profile Theory - Critical Comparison of Various Procedures," Symposium ueber Tragfluegel-Aerodynamik bei schallnahen Stroemungen, Goettingen, West Germany, Oct. 26–27, 1972. In German.

A73-14383

Scheerer, J. and B. Kiekebusch, "Results Regarding the Use of Collisionless Transonic Profiles in the Case of Transport Aircraft," DGLR 72-130, Symposium ueber Tragfluegel-Aerodynamik bei schallnahen Stroemungen, Goettingen, West Germany, Oct. 26–27, 1972. In German.

A73-28824

Norstrud, H., "Transonic Flow Past Lifting Wings," *AIAA Journal*, Vol. 11, May 1973, pp. 754–757.

A73-37459

Burdges, K.P., "A Synthesis of Transonic, 2-D Airfoil Technology," AIAA 73-792, 5th Aircraft Design, Flight Test, and Operations Meeting, St. Louis, MO, Aug. 6–8, 1973.

A74-24600

Bauer, F. and P.R. Garabedian, "Computer Simulation of Shock Wave Boundary Layer Interaction," *Communications on Pure and Applied Mathematics*, Vol. 26, Sept.–Nov. 1973, pp. 659–665.

A74-35387

Cosenza, C.J. and L.J. Kummeth, "Transonic Aircraft Technology/TACT/ Program," AIAA 74-620, 8th Aerodynamic Testing Conference, Bethesda, MD, July 8–10, 1974.

A74-41312

Whitcomb, Richard T., "Review of NASA Supercritical Airfoils," ICAS 74-10, 9th International Council of the Aeronautical Sciences, Haifa, Israel, Aug. 25–30, 1974.

A74-41313

Peake, J., A.J. Bowker, M. Mokry, H. Yoshihara, and R. Magnus, "Transonic Lift Augmentation of Two-Dimensional Supercritical Aerofoils by Means of Aft Camber, Slot Blowing and Jet Flaps, in High Reynolds Number Flow," ICAS 74-11, 9th International Council of the Aeronautical Sciences, Haifa, Israel, Aug. 25–30, 1974.

A74-41321

Kacprzynski, J.J., "Viscous Effects in Transonic Flow Past Airfoils," ICAS 74-19, 9th International Council of the Aeronautical Sciences, Haifa, Israel, Aug. 25–30, 1974.

A75-18288

Roos, F.W., "Surface Pressure and Wake Flow Fluctuations in a Supercritical Airfoil Flowfield," AIAA 75-66, 13th Aerospace Sciences Meeting, Pasadena, CA, Jan. 20–22, 1975.

A75-19251

Lock, R.C. and J.L. Fulker, "Design of Supercritical Aerofoils," *Aeronautical Quarterly*, Vol. 25, Nov. 1974, pp. 245–265.

A75-24144

Lotz, M., "Transonic Wing Design and its Effects on Flight Performance," DGLR 74-97, 7th Jahrestagung, Kiel, West Germany, Sept. 17–19, 1974. In German.

A75-24147

Stanewsky, E. and H. Zimmer, "Development and Wing Tunnel Investigation of Three Supercritical Airfoil Profiles for Transport Aircraft," DGLR 74-100, 7th Jahrestagung, Kiel, West Germany, Sept. 17–19, 1974. In German.

A75-33964

Hurley, F.X., F.W. Spaid, F.W. Roos, L.S. Stivers, Jr., and A. Bandettini, "Supercritical Airfoil Flowfield Measurements," AIAA 75-880, 8th Fluid and Plasma Dynamics Conference, Hartford, CT, June 16–18, 1975.

A75-34975

Bauer, F., P.R. Garabedian, D. Korn, and A. Jameson, "Supercritical Wing Sections II: A Handbook," *Economics and Mathematical Systems*, Vol. 108, 1975.

A75-37424

Coleman, B.L., "Two Dimensional, Inviscid, Transonic Flowfield Around a Profile," *Israel J. of Technology*, Vol. 13, No. 1–2, 1975, 17th Israel Annual Conference on Aviation and Astronautics, Tel Aviv and Haifa, Israel, May 21–22, 1975, pp. 157–161.

A75-40518

Lange, R.H., "The Spanloader Advanced Transport Concept," SAE 750616, Air Transportation Meeting, Hartford, CT, May 6–8, 1975.

A75-41970

Gustavsson, A. and R. Vanino, "Design and Wind-Tunnel Measurement of a Wing-Body Combination with Supercritical Airfoil," 7th Jahrestagung, Kiel, West Germany, Sept. 17–19, 1974. *Zeitschrift fuer Flugwissenschaften*, Vol. 23, July–Aug. 1975, pp. 257–262. In German.

A76-13402

Koerner, H., H. Koester, and G. Redeker, "The Development of Supplementary Computational Procedures for Supercritical Wings," *DFVLR-Nachrichten*, Nov. 1975, pp. 680–682. In German.

A76-14456

Vaucheret, X., M. Bazin, and C. Armand, "Comparison of Two-Dimensional and Three-Dimensional Transonic Tests in Several Large Wind Tunnels," *ONERA*, TP no. 1975-61, NATO/ AGARD, Reunion sur la Correlation entre Essais au Sol et en Vol, Valloire, Savoie, France, June 9–12, 1975. In French.

A76-15632

Nixon, D. and J. Patel, "The Evaluation of an Integral Equation Method for Two-Dimensional Shock-Free Flows," *Aeronautical Quarterly*, Vol. 26, Feb. 1975, pp. 59–70.

A76-20109

Moeken, B., "The Supercritical Wing Experimental Programme," *Dornier-Post* (English Edition), No. 3-4, 1975, pp. 8-10.

A76-22546

Robinson, C.A., Jr., "Navy Plans Emphasis on V/STOL," *Aviation Week and Space Technology*, Vol. 104, Mar. 1, 1976, pp. 12-16.

A76-27832

Redeker, G., "Calculation of Buffet Onset for Supercritical Airfoils," Symposium Transsonicum II, Goettingen, West Germany, Sept. 8-13, 1975.

A76-27844

Hansen, H., "Airfoil Design for a Prescribed Velocity Distribution in Transonic Flow by an Integral Method," Symposium Transsonicum II, Goettingen, West Germany, Sept. 8-13, 1975, Berlin, Springer-Verlag, 1976, pp. 183-190.

A76-27856

Vanino, R. and S. Rohlfs, "Supercritical Wing Design for Fighter Type Experimental Aircraft," Symposium Transsonicum II, Goettingen, West Germany, Sept. 8-13, 1975, Berlin, Springer-Verlag, 1976, pp. 281-288.

A76-27860

Eberle, A. "An Exact Hodograph Method for the Design of Supercritical Wing Sections," Symposium Transsonicum II, Goettingen, West Germany, Sept. 8-13, 1975, Berlin, Springer-Verlag, 1976, pp. 314-321.

A76-30064

Farmer, M.G. and P.W. Hanson, "Comparison of Supercritical Conventional Wing Flutter Characteristics," 17th AIAA Structures, Structural Dynamics, and Materials Conference, King of Prussia, PA, May 5-7, 1976, pp. 608-614.

A76-30916

Staszek, J., "Technical Progress in the Design of Aircraft from the Standpoint of Fuel Economy," *Technika Lotnicza i Astronautyczna*, Vol. 31, Apr. 1976, pp. 19-22. In Polish.

A76-36912

Wells, W.R. and S. Ramachandran, "Flight Test Design for Efficient Extraction of Aircraft Parameters," AIAA Third Atmospheric Flight Mechanics Conference, Arlington, TX, June 7-9, 1976, pp. 101-107.

A76-38626

AIAA 9th Aerodynamic Testing Conference, Arlington, TX, June 7-9, 1976.

A76-38627

Blackwell, James A., Jr. and G.A. Pounds, "Wind Tunnel Wall Interference Effects on a Supercritical Airfoil at Transonic Speeds," 9th AIAA Aerodynamic Testing Conference, Arlington, TX, June 7-9, 1976, pp. 1-11.

A76-42526

Garabedian, P.R. and D. Korn, "A Systematic Method for Computer Design of Supercritical Airfoils in Cascade," *Communications on Pure and Applied Mathematics*, Vol. 29, July 1976, pp. 369-382.

A76-47360

Eberle, A., W. Staudacher, and A. Zech, "Advanced Aerodynamics for Transonic Flight," ICAS 76-12, 10th International Council of the Aeronautical Sciences, Ottawa, Canada, Oct. 3–8, 1976.

A76-47367

Lotz, M. and B. Monnerie, "The Franco-German Experimental Program for the Evaluation of a Supercritical Wing for a Combat Aircraft Application," *ONERA*, TP no. 1976-129, ICAS 76-21, 10th International Council of the Aeronautical Sciences, Ottawa, Canada, Oct. 3–8, 1976.

A77-12552

Hitch, H., "Practical Requirements in Industry," *Computational Methods and Problems in Aeronautical Fluid Dynamics*, Academic Press, 1976, pp. 1–14.

A77-16666

Garabedian, P.R., "Computation of Wave Drag for Transonic Flow," *Journal d'Analyse Mathematique*, Vol. 30, 1976, pp. 164–171.

A77-25806

Isogai, K., "Calculation of Unsteady Transonic Flow over Oscillating Airfoils using the Full Potential Equation," AIAA 77-448, 18th Structures, Structural Dynamics, and Materials Conference, Mar. 21–23, 1977, and Dynamics Specialist Conference, San Diego, CA, Mar. 24–25, 1977, Vol. B. pp. 245–256.

A77-28234

Leonard, R.W. and R.D. Wagner, "Airframe Technology for Energy Efficient Transport Aircraft," SAE 760929, Aerospace Engineering and Manufacturing Meeting, San Diego, CA, Nov. 29–Dec. 2, 1976.

A77-33500

Eggleston, B. and D.J. Jones, "The Design of Lifting Supercritical Airfoils using a Numerical Optimization Method," *Canadian Aeronautics and Space Journal*, Vol. 23, May–June 1977, pp. 172–181.

A77-38884

Rose, W.C. and A. Seginer, "Calculation of Transonic Flow over Supercritical Airfoil Sections," AIAA 77-681, 10th Fluid and Plasmadynamics Conference, Albuquerque, NM, June 27–29, 1977.

A77-43329

Brodzki, Z., "New Aircraft Airfoils. I," *Technika Lotnicza i Astronautyczna*, Vol. 32, June 1977, pp. 10–14. In Polish.

A77-45505

Ellis, J.R. and J.L. Maris, "Advanced Technology Wing/ATW/Selection and Design," AIAA 77-1210, Aircraft Systems and Technology Meeting, Seattle, WA, Aug. 22–24, 1977.

A78-11636

Spaid, F.W. and R.J. Hakkinen, "On the Boundary Layer Displacement Effect Near the Trailing Edge of an Aft-Loaded Airfoil," *Zeitschrift fuer angewandte Mathematik und Physik*, Vol. 28, Sept. 25, 1977, pp. 941–950.

A78-19040

Geymonat, G., S. Nocilla, and B. Gabutti, "A Numerical Procedure for the Solution of the Direct Problem of Supercritical Transonic Wing Profiles, with a Hodographic Method," *Associazione Italiana di Aeronautica e Astronautica*, 3rd National Congress, Turin, Italy, Sept. 30–Oct. 3, 1975, Vol. 1, pp. 169–178. In Italian.

A78-24468

Grenon, R. and J. Thers, "Study of a Supercritical Profile with Oscillating Control Surface in Sub- and Transonic Flows," *ONERA*, TP no. 1977-136, NATO/AGARD Symposium on Unsteady Aerodynamics, Ottawa, Canada, Sept. 26–28, 1977. In French.

A78-34941

Barche, J., "New Structuralization and Work of Current Interest in the Research Area of Fluid Mechanics," Institut fuer Stroemungsmechanik, Goettingen, West Germany, Mar. 1978, pp. 9–13. In German.

A78-35728

Bauer, F., P.R. Garabedian, and D. Korn, "Supercritical Wing Sections III," *Economics and Mathematical Systems*, Vol. 150, 1977.

A78-45127

Sobieczky, H., N.J. Yu, K.Y. Fung, and A.R. Seebass, "A New Method for Designing Shock-Free Transonic Configurations," AIAA 78-1114, 11th Fluid and Plasma Dynamics Conference, Seattle, WA, July 10–12, 1978.

A78-45227

Eberle, A., "Transonic Potential Flow Computations by Finite Elements - Airfoil and Wing Analysis, Airfoil Optimization," DGLR 78-065, Symposium on Transonic Configurations, Bad Harzburg, West Germany, June 13–15, 1978.

A78-45230

Slooff, J.W. and N. Voogt, "Aerodynamic Design of Thick, Supercritical Wings Through the Concept of Equivalent Subsonic Pressure Distribution," DGLR Symposium on Transonic Configurations, Bad Harzburg, West Germany, June 13–15, 1978.

A78-45231

Constant, A.M., B. Haftmann, and D. Welte, "Design and Wind Tunnel Testing of the Supercritical Wing with Manoeuvre Flaps for the Alpha Jet as Experimental Aircraft," DGLR Symposium on Transonic Configurations, Bad Harzburg, West Germany, June 13–15, 1978.

A78-45234

Bocci, A.J. and M.P. Carr, "Flow Development on a Supercritical Wing," DGLR Symposium on Transonic Configurations, Bad Harzburg, West Germany, June 13–15, 1978.

A78-45239

Obert, E., "The Supercritical Wing—an Evolution of a Revolution," DGLR Symposium on Transonic Configurations, Bad Harzburg, West Germany, June 13–15, 1978.

A78-45240

Redeker, G. and R. Mueller, "Design and Experimental Verification of Two Supercritical Airfoils," DGLR 78-075, Symposium on Transonic Configurations, Bad Harzburg, West Germany, June 13–15, 1978.

A78-45242

Stanewsky, E., H. Koester, W. Puffert, and R. Mueller, "The DFVLR Transonic Wind Tunnel Braunschweig - Wall Interference Corrections for the Modified Test Section and Results for the Supercritical Airfoil Cast 7," DGLR Symposium on Transonic Configurations, Bad Harzburg, West Germany, June 13–15, 1978.

A78-45243

Ashill, P.R. and D.J. Weeks, "An Experimental Investigation of the Drag of Thick Supercritical Aerofoils—a Progress Report," DGLR Symposium on Transonic Configurations, Bad Harzburg, West Germany, June 13–15, 1978.

A79-19514

Lores, M.E., P.R. Smith, and R.M. Hicks, "Supercritical Wing Design using Numerical Optimization and Comparisons with Experiment," AIAA 79-0065, 17th Aerospace Sciences Meeting, New Orleans, LA, Jan. 15–17, 1979.

A79-20110

Blackwell, James A., Jr., "Scale Effects on Supercritical Airfoils," 11th International Council of the Aeronautical Sciences, Lisbon, Portugal, Sept. 10–16, 1978, Vol. 1. Cologne, International Council of the Aeronautical Sciences Secretariat (DGLR), 1978, pp. 370–383.

A79-20481

Lotz, M., "Research and Development in the Area of Fluid Mechanics and Aerodynamics in the Federal Republic of Germany," DGLR 78-223, Bonn, West Germany, Nov. 29–Dec. 1, 1978. In German.

A79-23550

Roos, F.W., "Some Features of the Unsteady Pressure Field in Transonic Airfoil Buffeting," AIAA 79-0351, 17th Aerospace Sciences Meeting, New Orleans, LA, Jan. 15–17, 1979.

A79-25881

Bencze, D.P., R.C. Smith, H.R. Welge, and J.P. Crowder, "Propeller Slipstream Wing Interactions at Mach No. 0.8," SAE 780997, Aerospace Meeting, San Diego, CA, Nov. 27–30, 1978.

A79-32276

Grenon, R. and A. Desopper, "Unsteady Effects of Control Surfaces," Association Aeronautique et Astronautique de France, 15th Colloque d'Aerodynamique Appliquee, Marseille, France, Nov. 7–9, 1978. In French.

A79-41234

Redeker, G. and N. Schmidt, "The DFVLR-F4 Transonic Wing as European Test Model," DFVLR-Nachrichten, June 1979, pp. 36–39. In German.

A79-46695

Spaid, F.W. and L.S. Stivers, Jr., "Supercritical Airfoil Boundary-Layer Measurements," AIAA 79-1501, 12th Fluid and Plasma Dynamics Conference, Williamsburg, VA, July 23–25, 1979.

A79-47345

Burdges, K.P., "Experimental Measurements of Shock/Boundary-Layer Interaction of a Supercritical Airfoil," AIAA 79-1499, 12th Fluid and Plasma Dynamics Conference, Williamsburg, VA, July 23–25, 1979.

A80-13456

Loebert, G., "Calculations of Inviscid Supercritical Subsonic Flow Past a Lifting Profile of Arbitrary Thickness," Darmstadt, Technische Hochschule, Fachbereich Maschinenbau, Dr.-Ing. Dissertation, 1979. In German.

A80-16977

Warwick, G., "AV-8B Advanced Harrier," *Flight International*, Vol. 116, Dec. 29, 1979, pp. 2127–2132; 2141, 2142.

A80-18327

Spaid, F.W. and W.D. Bachalo, "Experiments on the Flow About a Supercritical Airflow, Including Holographic Interferometry," AIAA 80-0343, 18th Aerospace Sciences Meeting, Pasadena, CA, Jan. 14–16, 1980.

A80-22751

Cheng, H.K., S.Y. Meng, R. Chow, and R.C. Smith, "Transonic Swept-Wing Analysis Using Asymptotic and Other Numerical Methods," AIAA 80-0342, 18th Aerospace Sciences Meeting, Pasadena, CA, Jan. 14–16, 1980.

A80-23932

Waggoner, E.G. "Computational Transonic Analysis for a Supercritical Transport Wing-Body Configuration," AIAA 80-0129, 18th Aerospace Sciences Meeting, Pasadena, CA, Jan. 14–16, 1980.

A80-26633

Warakomski, J., "AV-8B - A Second Generation V/STOL," SAE 791070, Aerospace Meeting, Los Angeles, CA, Dec. 3–6, 1979.

A80-34295

Couston, M., J.J. Angelini, and J.L. Meurzec, "Comparison of Unsteady Pressure Fields Calculated and Measured on the ZKP Model," *ONERA*, TP no. 1980-18, NATO/AGARD Meeting on the Effect of Service Environment on Composite Materials, Athens, Greece, Apr. 13–18, 1980.) In French.

A80-35038

Davis, S.S. and G.N. Malcolm, "Unsteady Aerodynamics of Conventional and Supercritical Airfoils," AIAA 80-0734, 21st Structures, Structural Dynamics, and Materials Conference, Seattle, WA, May 12–14, 1980, pp. 417–433.

A80-35039

Yang, T.Y., A.G. Striz, and P. Guruswamy, "Flutter Analysis of a Two-Degree-of-Freedom MBB A-3 Supercritical Airfoil in Two-Dimensional Transonic Flow," AIAA 80-0736, 21st Structures, Structural Dynamics, and Materials Conference, Seattle, WA, May 12–14, 1980, pp. 434–443.

A80-35041

Sandford, Maynard C., R.H. Ricketts, F.W. Cazier, Jr., and H.J. Cunningham, "Transonic Unsteady Airloads on an Energy Efficient Transport Wing with Oscillating Control Surfaces," AIAA 80-0738, 21st Structures, Structural Dynamics, and Materials Conference, Seattle, WA, May 12–14, 1980, pp. 455–461.

A80-38276

Sobieczky, H. "Computational Methods for the Design of Adaptive Airfoils and Wings," 3rd Conference on Numerical Methods in Fluid Mechanics, Cologne, West Germany, Oct. 10–12, 1979, Braunschweig, Friedr. Vieweg und Sohn Verlagsgesellschaft mbH, 1980, pp. 269–278.

A80-43321

Gilbert, W.W., "Development of a Mission Adaptive Wing System for a Tactical Aircraft," AIAA 80-1886, Aircraft Systems Meeting, Anaheim, CA, Aug. 4–6, 1980.

A80-44144

El-Hady, N.M., "On the Stability of Three-Dimensional Compressible Nonparallel Boundary Layers," AIAA 80-1374, 13th Fluid and Plasma Dynamics Conference, Snowmass, CO, July 14–16, 1980.

A80-45546

Mahesh, J.K., C.R. Stone, W.L. Garrard, and H.J. Dunn, "Active Flutter Suppression Using Linear Quadratic Gaussian Theory," AIAA 80-1758, Guidance and Control Conference, Danvers, MA, August 11–13, 1980, pp. 265–275.

A80-45751

Spacht, G., "The Forward Swept Wing - a Unique Design Challenge," AIAA 80-1885, Aircraft Systems Meeting, Anaheim, CA, Aug. 4–6, 1980.

A80-51416

Fung, K.Y., R. Seebass, and H. Sobieczky, "Shock-Free Wing Design," AIAA 79-1557, *AIAA Journal*, Vol. 18, Oct. 1980, pp. 1153–1158.

A81-17522

Wagner, O., "The Supercritical Profile of the Supercritical Wing," *Luft- und Raumfahrt*, Vol. 1, 4th Quarter, 1980, pp. 105, 106, 108, 109. In German.

A81-20732

Elfstrom, G.M., "Extraction of Wavedrag from Airfoil Wake," AIAA 81-0291, 19th Aerospace Sciences Meeting, St. Louis, MO, Jan. 12–15, 1981.

A81-20796

Raj, P., L.R. Miranda, and A.R. Seebass, "A Cost-Effective Method for Shock-Free Supercritical Wing Design," AIAA 81-0383, 19th Aerospace Sciences Meeting, St. Louis, MO, Jan. 12–15, 1981.

A81-26514

Pfenninger, Werner, H.L. Reed, and J.R. Dagenhart, "Design Considerations of Advanced Supercritical Low Drag Suction Airfoils," Viscous Flow Drag Reduction Symposium, Dallas, TX, Nov. 7–8, 1979, pp. 249–271.

A81-29060

Cassmeyer, C.C., "Technology Pays Off on the AV-8B," 5th International Symposium on Air Breathing Engines, Bangalore, India, Feb. 16–22, 1981, pp. 12-1 to 12-6.

A81-29471

Yates, E.C., Jr., E.C. Wynne, M.G. Farmer, and R.N. Desmarais, "Prediction of Transonic Flutter for a Supercritical Wing by Modified Strip Analysis and Comparison with Experiment," AIAA 81-0609, 22nd Structures, Structural Dynamics, and Materials Conference, Atlanta, GA, Apr. 6–8, 1981, pp. 377–405.

A81-29504

Houwink, R., A.N. Kraan, and R.J. Zwaan, "A Wind-Tunnel Study of the Flutter Characteristics of a Supercritical Wing," 22nd Structures, Structural Dynamics, and Materials Conference, Atlanta, GA, Apr. 6–8, 1981, and AIAA Dynamics Specialists Conference, Atlanta, Ga., Apr. 9–10, 1981, pp. 748–754.

A81-32541

Couston, M., J.J. Angelini, and J.L. Meurzec, "Comparison of Computed and Measured Unsteady Pressure Fields on a Supercritical Wing," *ONERA TP no. 1981-12*, 81st Cycle de Conférences, Rhode-Saint-Genese, Belgium, Mar. 9–13, 1981.

A81-38804

Thomas, D., "Experimental-Programme-Transonic Wing-TST," *Dornier Post* (English Edition), No. 3, 1981, pp. 32–37.

A81-45890

Johnson, D.A. and F.W. Spaid, "Measurements of the Boundary Layer and Near Wake of a Supercritical Airfoil at Cruise Conditions," AIAA 81-1242, 14th Fluid and Plasma Dynamics Conference, Palo Alto, CA, June 23–25, 1981.

A81-47556

Hoeningler, H., "Design and Construction of a Model which is Dynamically Similar to the A310 Wing," DGLR 81-035, Jahrestagung, Aachen, West Germany, May 11–14, 1981. In German.

A82-10466

Smith, R.C. and A.D. Levin, "Propfan Installation Aerodynamics of a Supercritical Swing Wing Transport Configuration," AIAA 81-1563, AIAA/SAE/ASME 17th Joint Propulsion Conference, Colorado Springs, CO, July 27–29, 1981.

A82-23826

Garabedian, P.R. and G. McFadden, "Design of Supercritical Swept Wings," *AIAA Journal*, Vol. 20, Mar. 1982, pp. 289–291.

A82-24674

Mehrotra, S.C. and J.C. Robinson, "Structural Modeling of High Reynolds Number Wind Tunnel Models," AIAA 82-0602, 12th Aerodynamic Testing Conference, Williamsburg, VA, Mar. 22–24, 1982, pp. 239–245.

A82-26536

Velupillai, D., "A310 - Europe Builds on Airbus Success," *Flight International*, Vol. 121, Feb. 27, 1982, pp. 477–484.

A82-30139

Grosser, W.F., "A Wind-Tunnel Study of the Aerodynamic Characteristics of a Slotted Versus Smooth-Skin Supercritical Wing," AIAA 82-0642, 23rd Structures, Structural Dynamics, and Materials Conference, New Orleans, LA, May 10–12, 1982, pp. 84–93.

A82-30143

Yates, E.C., Jr., E.C. Wynne, and M.G. Farmer, "Measured and Calculated Effects of Angle of Attack on the Transonic Flutter of a Supercritical Wing," AIAA 82-0647, 23rd Structures, Structural Dynamics, and Materials Conference, New Orleans, LA, May 10–12, 1982, pp. 122–144.

A82-30171

Ruhlin, C.L., F.J. Rauch, Jr., and C. Waters, "Transonic Flutter Study of a Wind-Tunnel Model of a Supercritical Wing without/without Winglet," AIAA 82-0721, 23rd Structures, Structural Dynamics, and Materials Conference, New Orleans, LA, May 10–12, 1982, pp. 407–415.

A82-33327

Harvey, W.D. and J.D. Pride, "The NASA Langley Laminar Flow Control Airfoil Experiment," AIAA 82-0567, 12th Aerodynamic Testing Conference, Williamsburg, VA, Mar. 22–24, 1982.

A82-34008

Anglin, E.L. and T.A. Byrdsong, "Wing Flap-Type Control Effectiveness and Effects of Control Hinge Gap Seals for a Supercritical Wing," AIAA 82-0960, AIAA/ASME 3rd Joint Thermophysics, Fluids, Plasma and Heat Transfer Conference, St. Louis, MO, June 7–11, 1982.

A82-34173

Bokser, V.D., "An Experimental Study of the Local Supersonic Zone Height and Wave Drag in Transonic Flow Past a Section," *TsAGI, Uchenye Zapiski*, Vol. 12, No. 6, 1981, pp. 98–103. In Russian.

A82-38283

Forbrich, C.A., Jr., "Improved Solutions to the Falkner-Skan Boundary-Layer Equation," *AIAA Journal*, Vol. 20, Sept. 1982, pp. 1306–1307.

A82-40971

Englar, R.J., "Development of an Advanced No-Moving-Parts High-Lift Airfoil," 13th International Council of Aeronautical Sciences, and AIAA Aircraft Systems and Technology Conference, Seattle, WA, Aug. 22–27, 1982, Vol. 2, pp. 951–959.

A83-10190

Yates, E.C. Jr., E.C. Wynne, M.G. Farmer, and R.N. Desmarais, "Prediction of Transonic Flutter for a Supercritical Wing by Modified Strip Analysis," 22nd Structures, Structural Dynamics, and Materials Conference, Atlanta, GA, Apr. 6–8, 1981, and AIAA Dynamics Specialists Conference, Atlanta, GA, Apr. 9–10, 1981, pp. 377–405. *AIAA J. of Aircraft*, Vol. 19, Nov. 1982, pp. 999–1004.

A83-15324

Grosser, W.F., "Aerodynamic Characteristics of a Slotted versus Smooth-Skin Supercritical Wing Model," *AIAA J. of Aircraft*, Vol. 20, Jan. 1983, pp. 92–94.

A83-16455

Boldman, D.R., A.E. Buggele, and L.M. Shaw, "Experimental Evaluation of Shockless Supercritical Airfoils in Cascade," AIAA 83-0003, 21st Aerospace Sciences Meeting, Reno, NV, Jan. 10–13, 1983.

A83-16518

Jacobs, P.F., "A Comparison of Trim Drag for Conventional and Supercritical Wings," AIAA 83-0094, 21st Aerospace Sciences Meeting, Reno, NV, Jan. 10–13, 1983.

A83-16577

Narain, J.P., "A Transonic Analysis of Propfan Slipstream Effect on a Supercritical Wing," AIAA 83-0186, 21st Aerospace Sciences Meeting, Reno, NV, Jan. 10–13, 1983.

A83-16601

Malone, J.B. and N.L. Sankar, "Numerical Simulation of 2-D Unsteady Transonic Flows Using the Full-Potential Equation," AIAA 83-0233, 21st Aerospace Sciences Meeting, Reno, NV, Jan. 10–13, 1983.

A83-16603

Whitfield, D.L. and A. Jameson, "Three-Dimensional Euler Equation Simulation of Propeller-Wing Interaction in Transonic Flow," AIAA 83-0236, 21st Aerospace Sciences Meeting, Reno, NV, Jan. 10–13, 1983.

A83-16618

Raj, P., "A Multi-Grid Method for Transonic Wing Analysis and Design," AIAA 83-0262, 21st Aerospace Sciences Meeting, Reno, NV, Jan. 10–13, 1983.

A83-16686

Murthy, A.V., C.B. Johnson, E.J. Ray, P.L. Lawing, and J.J. Thibodeaux, "Investigation of the Effects of Upstream Sidewall Boundary-Layer Removal on a Supercritical Airfoil," AIAA 83-0386, 21st Aerospace Sciences Meeting, Reno, NV, Jan. 10–13, 1983.

A83-16707

Mason, W.H., M.J. Siclari, D.S. Miller, and J.L. Pittman, "A Supersonic Maneuver Wing Designed for Nonlinear Attached Flow," AIAA 83-0425, 21st Aerospace Sciences Meeting, Reno, NV, Jan. 10–13, 1983.

A83-24027

Johnson, D.A. and F.W. Spaid, "Supercritical Airfoil Boundary-Layer and Near-Wake Measurements," *AIAA J. of Aircraft*, Vol. 20, Apr. 1983, pp. 298–305. (Previously cited in issue 22, p. 3806, Accession no. A81-45890).

A83-24039

Cosentino, G.B., "Modifying a General Aviation Airfoil for Supercritical Flight," *AIAA J. of Aircraft*, Vol. 20, Apr. 1983, pp. 377–379.

A83-29849

Ricketts, R.H., Maynard C. Sandford, David A. Seidel, and J.J. Watson, "Transonic Pressure Distributions on a Rectangular Supercritical Wing Oscillating in Pitch," AIAA 83-0923, 24th Structures, Structural Dynamics and Materials Conference, Lake Tahoe, NV, May 2–4, 1983, pp. 399–408.

A83-29878

Persoon, A.J., J.J. Horsten, and J.J. Meijer, "On Measuring Transonic Dips in the Flutter Boundaries of a Supercritical Wing in the Wind Tunnel," AIAA 83-1031, 24th Structures, Structural Dynamics, and Materials Conference, Lake Tahoe, NV, May 2–4, 1983, pp. 664–675.

A83-29927

Garabedian, P.R. and G. McFadden, "Computational Fluid Dynamics of Airfoils and Wings," *Transonic, Shock, and Multidimensional Flows: Advances in Scientific Computing; Symposium Proceedings*, Madison, WI, May 13–15, 1981. New York, Academic Press, 1982, pp. 1–16.

A83-29931

Cheng, H.K., "Computational Study of the Asymptotic Flow Structure of a High-Aspect-Ratio Swept Wing in Transonic Flow," *Transonic, Shock, and Multidimensional Flows: Advances in Scientific Computing; Symposium Proceedings*, Madison, WI, May 13–15, 1981. New York, Academic Press, 1982, pp. 107–145.

A83-38685

Mason, W.H., "SC3 - A Wing Concept for Supersonic Maneuvering," AIAA 83-1858, Applied Aerodynamics Conference, Danvers, MA, July 13–15, 1983.

A83-38691

Kennelly, R.A., Jr., "Improved Method for Transonic Airfoil Design-by-Optimization," AIAA 83-1864, Applied Aerodynamics Conference, Danvers, MA, July 13–15, 1983.

A83-39099

Ruo, S.Y., J.B. Malone, J.J. Horsten, and R. Houwink, "The Lann Program - an Experimental and Theoretical Study of Steady and Unsteady Transonic Airloads on a Supercritical Wing," AIAA 83-1686, 16th Fluid and Plasma Dynamics Conference, Danvers, MA, July 12–14, 1983.

A83-40472

King, L.S. and D.A. Johnson, "Comparison of Supercritical Airfoil Flow Calculations with Wind-Tunnel Results," AIAA 83-1688, 16th Fluid and Plasma Dynamics Conference, Danvers, MA, July 12–14, 1983.

A83-41048

Ruhlin, C.L., F.J. Rauch, Jr., and C. Waters, "Transonic Flutter Model Study of a Supercritical Wing and Winglet," AIAA 23rd Structures, Structural Dynamics, and Materials Conference, New Orleans, LA, May 10–12, 1982, pp. 407–415); AIAA *J. of Aircraft* (ISSN 0021-8669), Vol. 20, Aug. 1983, pp. 711–716. Previously cited in issue 13, p. 2111, Accession no. A82-30171.

A83-41679

Rising, J.J., W.J. Davis, and W.D. Grantham, "An Advanced Control System for a Next Generation Transport Aircraft," AIAA 83-2194, Guidance and Control Conference, Gatlinburg, TN, Aug. 15–17, 1983, pp.195–209.

A83-41954

Stargill, S.L., "Transonic Wind Tunnel Test on an Oscillating Flap," AIAA 83-2132, Atmospheric Flight Mechanics Conference, Gatlinburg, TN, Aug. 15–17, 1983.

A83-46483

Laschka, B., "The Way to the Supercritical Wing," Scientific Colloquium, Technische Universitaet Muenchen, Munich, West Germany, Feb. 1, 1982, pp. 29–43. In German.

A83-48213

Yates, E.C., Jr., E.C. Wynne, and M.G. Farmer, "Effects of Angle of Attack on Transonic Flutter of a Supercritical Wing," AIAA 23rd Structures, Structural Dynamics, and Materials Conference, New Orleans, LA, May 10–12, 1982, pp. 122–144, AIAA *J. of Aircraft* (ISSN 0021-8669), Vol. 20, Oct. 1983, pp. 841–847. Previously cited in issue 13, p. 2021, Accession no. A82-30143.

A83-49179

Zimmerman, H., "Unsteady Airloads on Supercritical Wings," International Symposium on Aeroelasticity, Nuremberg, West Germany, Oct. 5–7, 1981, Collected Papers. Cologne, Deutsche Gesellschaft fuer Luft-und Raumfahrt, 1982, pp. 54–64.

A84-10145

Ohman, L.H., "Effect of Edge-Tone Noise on Supercritical Airfoil Data," AIAA *Journal* (ISSN 0001-1452), Vol. 21, Nov. 1983, pp. 1597–1598.

A84-18008

McClain, W.E., "Comparison of Measured and Calculated Airloads on an Energy Efficient Transport Wing Model Equipped with Oscillating Control Surfaces," AIAA 84-0301, 22nd Aerospace Sciences Meeting, Reno, NV, Jan. 9–12, 1984.

A84-22175

Raj, P., "A Multi-Grid Method for Transonic Wing Analysis and Design," AIAA *J. of Aircraft* (ISSN 0021-8669), Vol. 21, Feb. 1984, pp. 143–150. Previously cited in issue 05, pp. 583, Accession no. A83-16618.

A84-22587

Sobieczky, H. and A.R. Seebass, "Supercritical Airfoil and Wing Design," Annual Review of Fluid Mechanics, Vol. 16. Palo Alto, CA, *Annual Reviews, Inc.*, 1984, pp. 337–363.

A84-29553

Demeis, R., "Integrating a Propfan into a Supercritical Wing," *Aerospace America* (ISSN 0740-722X), Vol. 22, Jan. 1984, pp. 56, 58, 60.

A84-29670

Triebstein, H., B.T. Yeh, and H. Hansen, "Unsteady Aerodynamics for Rapidly Moving Flaps and Spoilers for the Active-Control Reduction of Gust and Maneuver Loads," DGLR 83-107, Jahrestagung, Munich, West Germany, Oct. 17–19, 1983. In German.

A84-32489

Meyer, P. and G. Koerber, "Application of Laser Velocimetry to the Study of the Flow Behind a Spoiler," AAAF NT 83-21, Association Aeronautique et Astronautique de France, 20th Colloque d'Aerodynamique Appliquee, Toulouse, France, Nov. 8–10, 1983. In French.

A84-33150

Krogmann, P. and P. Thiede, "The Active and Passive Influencing of Shock Boundary Layer Interference at Supercritical Aircraft Wings," DGLR 83-059, 4th Fachsymposium ueber Stroemungen mit Abloesung, Goettingen, West Germany, Oct. 1983.

A84-36960

Schmidt, J.F., T.F. Gelder, and L.F. Donovan, "Redesign and Cascade Tests of a Supercritical Controlled Diffusion Stator Blade-Section," AIAA 84-1207, AIAA/SAE/ASME 20th Joint Propulsion Conference, Cincinnati, OH, June 11–13, 1984.

A84-37536

Porcheron, B. and J.J. Thibert, "Detailed Study of the Flow Around a Profile with High-Lift Devices - Comparison with Calculations," ONERA, TP no. 1984-17, NATO/AGARD Symposium on Improvement of Aerodynamic Performance through Boundary Layer Control and High Lift Systems, Brussels, Belgium, May 21–25, 1984. In French.

A84-37968

Whitfield, D.L. and J.M. Janus, "Three-Dimensional Unsteady Euler Equations Solution Using Flux Vector Splitting," AIAA 84-1552, 17th Fluid Dynamics, Plasma Dynamics, and Lasers Conference, Snowmass, CO, June 25–27, 1984.

A84-38054

Nagamatsu, H.T., R.D. Orozco, and D.C. Ling, "Porosity Effect on Supercritical Airfoil Drag Reduction by Shock Wave/Boundary Layer Control," AIAA 84-1682, 17th Fluid Dynamics, Plasma Dynamics, and Lasers Conference, Snowmass, CO, June 25–27, 1984.

A84-38414

Stanniland, D.R., "Aspects of the Aerodynamic Design of a Thin Supercritical, Forward Swept Wing for a Combat Aircraft," International Conference on Forward Swept Wing Aircraft, Bristol, England, Mar. 24–26, 1982, pp. I.13.1–I.13.13.

A84-38839

Sanz, J.M., "Improved Design of Subcritical and Supercritical Cascades using Complex Characteristics and Boundary-Layer Correction," 6th International Symposium on Air Breathing Engines, Paris, France, June 6–11, 1983) *AIAA Journal* (ISSN 0001-1452), Vol. 22, July 1984, pp. 950–956.

A84-38844

Savu, G. and O. Tribu, "Porous Airfoils in Transonic Flow," *AIAA Journal* (ISSN 0001-1452), Vol. 22, July 1984, pp. 989–991.

A84-39317

Volpe, G., "Prediction of the Flow over Supercritical High-Lift Configurations by a Multigrid Algorithm," AIAA 84-1664, 17th Fluid Dynamics, Plasma Dynamics, and Lasers Conference, Snowmass, CO, June 25–27, 1984.

A84-40828

Malone, J.B. and N.L. Sankar, "Numerical Simulation of Two-Dimensional Unsteady Transonic Flows using the Full-Potential Equation," *AIAA Journal* (ISSN 0001-1452), Vol. 22, Aug. 1984, pp. 1035–1041. Previously cited in issue 5, p. 582, Accession no. A83-16601.

A84-44944

Chaumet, B., D. Destarac, and T.H. Le, "Three-Dimensional Computational Methods Applied to Aerodynamic Analysis of Transonic Flows Past a Wing-Body Configuration," *ONERA TP no. 1984-92*, 14th International Council of the Aeronautical Sciences, Toulouse, France, Sept. 9–14, 1984, Vol. 1, pp. 144–156.

A84-44961

Krogmann, P., E. Stanewsky, and P. Thiede, "Transonic Shock-Boundary Layer Interaction Control, 14th International Council of the Aeronautical Sciences, Toulouse, France, Sept. 9–14, 1984, Vol. 1, AIAA. 1984, pp. 297–307.

A84-45010

Gravelle, A., H. Hoenlinger, and S. Vogel, "Flutter Calculation on a Supercritical Wing in the Transonic Range - Comparison Theory - Experiment," *ONERA TP no. 1984-108*, 14th International Council of the Aeronautical Sciences, Toulouse, France, Sept. 9–14, 1984, Vol. 2. AIAA 1984, pp. 739–746.

A84-45959

Ricketts, R.H., Maynard C. Sandford, David A. Seidel, and J.J. Watson, "Transonic Pressure Distributions on a Rectangular Supercritical Wing Oscillating in Pitch," 24th Structures, Structural Dynamics, and Materials Conference, Lake Tahoe, NV, May 2–4, 1983, Part 2, pp. 399–408. *AIAA J. of Aircraft* (ISSN 0021-8669), Vol. 21, Aug. 1984, pp. 576–582. Previously cited in issue 12, p. 1697, Accession no. A83-29849.

A84-46105

Brown, J.L. and P.R. Viswanath, "An Experimental Study of a Supercritical Trailing-Edge Flow," AIAA 84-2187, 2nd Applied Aerodynamics Conference, Seattle, WA, Aug. 21–23, 1984.

A84-46476

Demeis, R., "Dougle Shock Wave Almost Halves Drag," *Aerospace America* (ISSN 22), Sept. 1984, pp. 26-27.

A85-11977

Whitfield, D.L. and A. Jameson, "Euler Equation Simulation of Propeller-Wing Interaction in Transonic Flow," *AIAA J. of Aircraft* (ISSN 0021-8669), Vol. 21, Nov. 1984, pp. 835–839. Previously cited in issue 05, p. 582, Accession no. A83-16603.

A85-11986

Persoon, A.J., J.J. Horsten, and J.J. Meijer, "Measurement of the Transonic Dips in the Flutter Boundaries of a Supercritical Wing in a Wind Tunnel," 24th Structures, Structural Dynamics, and Materials Conference, Lake Tahoe, NV, May 2–4, 1983, Part 2, pp. 664–675), *AIAA J. of Aircraft* (ISSN 0021-8669), Vol. 21, Nov. 1984, pp. 906–912. Previously cited in issue 12, p. 1703, Accession no. A83-29878.

A85-18509

Ruo, S.Y., J.B. Malone, J.J. Horsten, and R. Houwink, "Steady and Unsteady Transonic Airloads on a Supercritical Wing," *AIAA J. of Aircraft* (ISSN 0021-8669), Vol. 22, Jan. 1985, pp. 28–36. Previously cited in issue 18, p. 2632, Accession no. A83-39099.

A85-19572

Nakayama, A., "Measurements of Separating Boundary Layer and Wake of an Airfoil Using Laser Doppler Velocimetry," AIAA 85-0181, 23rd Aerospace Sciences Meeting, Reno, NV, Jan. 14–17, 1985.

A85-19591

Nagamatsu, H.T., R.V. Ficarra, and R. Dyer, "Supercritical Airfoil Drag Reduction by Passive Shock Wave/Boundary Layer Control in the Mach Number Range .75 to .90," AIAA 85-0207, 23rd Aerospace Sciences Meeting, Reno, NV, Jan. 14–17, 1985.

A85-19777

Visbal, M.R. and J.S. Shang, "A Comparative Study Between an Implicit and Explicit Algorithm for Transonic Airfoils," AIAA 85-0480, 23rd Aerospace Sciences Meeting, Reno, NV, Jan. 14–17, 1985.

A85-22228

Nandan, M. and M.A. Ramaswamy, "Design of Lifting Symmetric Supercritical Airfoils," *Aeronautical Society of India, Journal* (ISSN 0001-9267), Vol. 36, May 1984, pp.107–113.

A85-26690

Yang, Z., "A Special Boundary Element Technique in Transonic Flow," *Boundary Elements; Proceedings of the 5th International Conference*, Hiroshima, Japan, Nov. 8–11,1983, pp. 293–300.

A85-29263

McCain, W.E., "Measured and Calculated Airloads on a Transport Wing Model," *AIAA J. of Aircraft* (ISSN 0021-8669), Vol. 22, Apr. 1985, pp. 336–342. Previously cited in issue 06, p. 708, Accession no. A84-18008.

A85-30327

Seidel, David A., Maynard C. Sandford, and Clinton V. Eckstrom, "Measured Unsteady Transonic Aerodynamic Characteristics of an Elastic Supercritical Wing with an Oscillating Control Surface," AIAA 85-0598, 26th Structures, Structural Dynamics, and Materials Conference, Orlando, FL, Apr. 15–17, 1985, Part 2. AIAA pp. 64–71.

A85-30407

Bennett, R.M., David A. Seidel, and Maynard C. Sandford, "Transonic Calculations for a Flexible Supercritical Wing and Comparison with Experiment," AIAA 85-0665, AIAA/ASME/ASCE/AHS 26th Structures, Structural Dynamics, and Materials Conference, Orlando, FL, Apr. 15–17,1985.

A85-32586

Batina, J.T. and T.Y. Yang, "Transonic Time Responses of the MBB A-3 Supercritical Airfoil Including Active Controls," 25th Structures, Structural Dynamics, and Materials Conference, Palm Springs, CA, May 14–16, 1984, and AIAA Dynamics Specialists Conference, Palm Springs, CA, May 17–18, 1984, Part 2, pp. 578–588. *AIAA J. of Aircraft* (ISSN 0021-8669), Vol. 22, May 1985, pp. 393–400. Previously cited in issue 13, p. 1836, Accession no. A84-31748.

A85-35203

Bachalo, W.D. and M.J. Houser, "Optical Interferometry in Fluid Dynamics Research," *Optical Engineering* (ISSN 0091-3286), Vol. 24, May–June 1984, pp. 455–461.

A85-39686

Carlson, J.R., O.C. Pendergraft, Jr., and G.R. Bartlett, "Comparison of Advanced Turboprop Installation on Swept and Unswept Supercritical Wings at Transonic Speeds," AIAA 85-1264, AIAA/SAE/ASME/ASEE 21st Joint Propulsion Conference, Monterey, CA, July 8–10, 1985.

A85-40744

Fung, K.Y. and J.K. Fu, "Computation of Unsteady Transonic Aerodynamics with Steady State Fixed by Truncation Error Injection," AIAA 85-1644, 18th Fluid Dynamics and Plasmadynamics and Lasers Conference, Cincinnati, OH, July 16–18, 1985.

A85-41026

Nagano, S., "Fan and Compressor Technology," *Japan Society for Aeronautical and Space Sciences, Journal* (ISSN 0021-4663), Vol. 32, No. 371, 1984, pp. 677–682. In Japanese.

A85-45701

King, L.S. and D.A. Johnson, "Comparison of Supercritical Airfoil Flow Calculations with Wind Tunnel Results," *AIAA Journal* (ISSN 0001-1452), Vol. 23, Sept. 1985, pp. 1301–1307. Previously cited in issue 18, p. 2638, Accession no. A83-40472.

A85-47103

Schuster, D.M. and Y. Tassa, "Computed Static Stall of a Supercritical Airfoil," *Flow Visualization III; Proceedings of the 3rd International Symposium*, Ann Arbor, MI, Sept. 6–9, 1983. Washington, DC, Hemisphere Publishing Corp., 1985, pp. 198–202.

A85-47269

Mulak, P., J.L. Meurzec, and J.J. Angelini, "Extension and Use of Numerical Procedure for the Three Dimensional Unsteady Transonic Flows," *ONERA TP no. 1985-67*, 2nd International Symposium on Aeroelasticity and Structural Dynamics, Aachen, West Germany, Apr. 1–3, 1985.

A86-13933

Dzygadlo, Z. and T.X. Chu, "A Method for Numerical Analysis of the Aerodynamic Characteristics of an Aeroplane Wing in the Subcritical Range of the Flying Velocity," *J. of Technical Physics* (ISSN 0324-8313), Vol. 25, No. 1, 1984, pp. 127–141.

A86-16352

Schaefer, H.J., "The Application of Laser Anemometry to the Study of Transonic Shock Boundary-Layer Interactions," 2nd International Symposium on Applications of Laser Anemometry to Fluid Mechanics, Lisbon, Portugal, July 2–5, 1984, p. 1.3 (4 p.).

A86-19415

Nakayama, A., "Characteristics of the Flow Around Conventional and Supercritical Airfoils," *AIAA J. of Fluid Mechanics* (ISSN 0022-1120), Vol. 160, Nov. 1985, pp.155–179.

A86-19702

Ruo, S.Y., J.B. Malone, and L.N. Sankar, "Steady and Unsteady Full Potential Calculation for Large and Small Aspect Ratio Supercritical Wings," AIAA 86-0122, 24th Aerospace Sciences Meeting, Reno, NV, Jan. 6–9, 1986.

A86-20927

Hafez, M.M., "Numerical Algorithms for Transonic Inviscid Flow Calculations," *Advances in Computational Transonics*, Swansea, Wales, Pineridge Press, 1985, pp. 23–58.

A86-21040

Inger, G.R., "The Modular Application of a Shock/Boundary Layer Interaction Solution to Supercritical Viscous-Inviscid Flow Field Analysis," *Computational Methods in Viscous Flows*, Swansea, Wales, Pineridge Press, 1984, pp. 475–511.

A86-26408

Hassan, A.A., "The Design of Shock-Free Supercritical Airfoils Including Viscous Effects," International Conference on Inverse Design Concepts in Engineering Sciences, Austin, TX, Oct. 17–19, 1984, *Communications in Applied Numerical Methods* (ISSN 0748-8025), Vol. 2, Jan.–Feb. 1986, pp. 37–45.

A86-32966

Visbal, M.R. and J.S. Shang, "Comparative Study Between Two Navier-Stokes Algorithms for Transonic Airfoils," *AIAA Journal* (ISSN 0001-1452), Vol. 24, Apr. 1986, pp. 599–606. Previously cited in issue 07, p. 847, Accession no. A85-19777.

A86-32990

Savu, G., "The Passive Control of the Shock Waves on Transonic Airfoils," *Acta Aerodynamica Sinica* (ISSN 0258-1825), Vol. 4, Mar. 1986, pp. 11–18.

A86-33231

Oyibo, G.A., "Exact Closed-Form Solutions for Nonlinear Unsteady Transonic Aerodynamics," 2nd International Symposium on Aeroelasticity and Structural Dynamics, Aachen, West Germany, Apr. 1–3, 1985, pp. 71–79.

A86-37802

Smith, G.E., H.A. Hassan, and W. Whitlow, Jr., "Unsteady Transonic Flows Past Airfoils Using the Euler Equations," AIAA 86-1764, 4th Applied Aerodynamics Conference, San Diego, CA, June 9–11, 1986, pp. 1–9.

A86-48457

Blanchard, A., J.B.D. or, A. Mignosi, and A. Seraudie, "Tests on Cast 7 and Cast 10 profiles in the T2 Adaptive-Wall Cryogenic Wind Tunnel-Study of the Reynolds-Number Effect in Natural and Triggered Transitions," AAAF NT 85-06, 22nd Colloque d'Aerodynamique Appliquee, Lille, France, Nov.13–15, 1985.

A86-48981

Eggleston, B., R.J.D. Poole, D.J. Jones, and M. Khalid, "Thick Supercritical Airfoils with Low Drag and NLF Capability," ICAS 15th Congress, London, England, Sept. 7–12, 1986, *Proceedings*, Vol. 1, pp. 60–66.

A86-48982

Zhang, Z.Y., X.T. Yang, and B. Laschka, "Design of a Supercritical Airfoil," ICAS 15th Congress, London, England, Sept. 7–12, 1986, *Proceedings*, Vol. 1, pp. 67–70.

A86-49074

Buetefisch, K.A. and E. Stanewsky, "Flow Field Study on a Supercritical Airfoil using a Pressure Probe and a Two-Component Laser-Doppler-Anemometer," ICAS15th Congress Proceedings, London, England, Sept. 7–12, 1986, Vol. 2, pp. 911–922.

A86-49106

Costes, M., A Gravelle, J.J. Philippe, S. Vogel, and H. Triebstein, "Steady and Unsteady Investigations of Spoiler and flap Aerodynamics in Two Dimensional Subsonic Flows," ONERA TP no. 1986-101, ICAS 15th Congress Proceedings, London, England, Sept. 7–12, 1986, Vol. 2, pp. 1243–1253.

A87-11786

Houwink, R., "Computations of Separated Subsonic and Transonic flow about Airfoils in Unsteady Motion," 3rd Numerical and Physical Aspects of Aerodynamic Flows III Symposium, Long Beach, CA, Jan. 21–24, 1985, pp. 272–285.

A87-17815

Volpe, G. and R.E. Melnik, "Method for Designing Closed Airfoils for Arbitrary Supercritical Speed Distributions," AIAA 85-5023, AIAA *J. of Aircraft* (ISSN 0021-8669), Vol. 23, Oct. 1986, pp. 775–782.

A87-17884

Pfenninger, Werner, Chandra S. Vemuru, G. Volpe, and J. Viken, "All Laminar Supercritical LFC Airfoils with Natural Laminar Flow in the Region of the Main Wing Structure," AIAA 86-2625, AIAA/AHS/ASEE Aircraft Systems, Design, and Technology Meeting, Dayton, OH, Oct. 20–22, 1986.

A87-20504

Hill, M.G. and N. Riley, "A Hybrid Method for Transonic Flow Past Multi-Element Aerofoils," *J. of Fluid Mechanics* (ISSN 0022-1120), Vol. 170, Sept. 1986, pp. 253–264.

A87-21054

Destuynder, R., "Influence of the Static Deformation on a Wing in the Unsteady Aerodynamic," ONERA TP no. 1986-152, NATO/AGARD 63rd Specialists Meeting on Static Aeroelasticity Effects on High-Performance Aircraft, Athens, Greece, Oct. 5–10, 1986.

A87-22370

Hess, Robert W., David A. Seidel, William B. Igoe, and Pierce L. Lawing, "Highlights of Unsteady Pressure Tests on a 14 Percent Supercritical Airfoil at High Reynolds Number, Transonic Condition," AIAA 87-0035, 25th Aerospace Sciences Meeting, Reno, NV, Jan. 12–15, 1987.

A87-22419

Ruo, S.Y. and L.N. Sankar, "Solution of Unsteady Rotational Flow over Supercritical Wings," AIAA 87-0108, 25th Aerospace Sciences Meeting, Reno, NV, Jan. 12–15, 1987.

A87-32626

Johnson, C.B., W.G. Johnson, Jr., and P.G. Stainback, "A Summary of Reynolds Number Effects on Some Recent Test in the Langley 0.3-Meter Transsonic Cryogenic Tunnel," SAE 861765, Aerospace Technology Conference and Exposition, Long Beach, CA, Oct. 13–16, 1986.

A87-33662

Seidel, David A., Clinton V. Eckstrom, and Maynard C. Sandford, "Investigation of Transonic Region of High Dynamic Response Encountered on an Elastic Supercritical Wing," AIAA 87-0735, 28th Structures, Structural Dynamics, and Materials Conference, Monterey, CA, Apr. 6–8, 1987 and AIAA Dynamics Specialists Conference, Monterey, CA, Apr. 9–10, 1987, Part 2A, pp. 66–75.

A87-33702

Adams, William M., Jr., Sherwood H. Tiffany, and Richard E. Bardusch, "Active Suppression of an Apparent Shock Induced Stability," AIAA 87-0881, 28th Structures, Structural Dynamics, and Materials Conference, Monterey, CA, Apr. 6–8, 1987 and AIAA Dynamics Specialists Conference, Monterey, CA, Apr. 9–10, 1987, Part 2A, pp. 491–505.

A87-34505

Seidel, David A., Maynard C. Sandford, and Clinton V. Eckstrom, "Measured Unsteady Transonic Aerodynamic Characteristics of an Elastic Supercritical Wing," AIAA 26th Structures, Structural Dynamics, and Materials Conference, Orlando, FL, Apr. 15–17, 1985, Part 2, pp. 64–71. *AIAA J. of Aircraft* (ISSN 0021-8669), Vol. 24, Apr. 1987, pp. 225–230. Previously cited in issue 13, p. 1845, Accession no. A85-30327.

A87-39529

Volpe, G., "Multigrid Approximate Factorization Scheme for Two-Element Airfoil Flows," *AIAA Journal* (ISSN 0001-1452), Vol. 25, June 1987, pp. 784–791. Previously cited in issue 18, p. 2569, Accession no. A84-39317.

A87-41634

Eggleston, B., R.J.D. Poole, D.J. Jones, and M. Khalid, "Thick Supercritical Airfoils with Low Drag and Natural Laminar Flow," ICAS 15th Congress Proceedings, London, England, Sept. 7–12, 1986, Vol. 1, pp. 60–66. *AIAA J. of Aircraft* (ISSN 0021-8669), Vol. 24, June 1987, pp. 405–411. Previously cited in issue 24, p. 3529, Accession no. A86-48981.

A87-42336

Tai, Tsze C., Gregory G. Huson, Raymond M. Hicks, and Gerald M. Gregorek, "Transonic Characteristics of a Humped Airfoil," AIAA 87-1239, 19th Fluid Dynamics, Plasma Dynamics, and Lasers Conference, Honolulu, HI, June 8–10, 1987.

A87-42352

Nagamatsu, H.T., T.W. Trilling, and J.A. Bossard, "Passive Drag Reduction on a Complete NACA 0012 Airfoil at Transonic Mach Numbers," AIAA 87-1263, 19th Fluid Dynamics, Plasma Dynamics, and Lasers Conference, Honolulu, HI, June 8–10, 1987.

A87-42355

Barnett, Mark, "Analysis of Crossover Between Local and Massive Separation on Airfoils," AIAA 87-1268, 19th Fluid Dynamics, Plasma Dynamics, and Lasers Conference, Honolulu, HI, June 8–10, 1987.

A87-43392

Fung, K.Y., and J.K. Fu, "Computation of Unsteady Transonic Aerodynamics with Truncation Error Injection," *AIAA Journal* (ISSN 0001-1452), Vol. 25, July 1987, pp. 1018–1020. Previously cited in issue 19, p. 2740, Accession no. A85-40744.

A87-44914

Mateer, George, C., H. Lee Seegmiller, Thomas J. Coakley, Lawrence A. Hand, and Joachim Szodruch, "An Experimental Investigation of a Supercritical Airfoil at Transonic Speeds," AIAA 87-1241, 19th Fluid Dynamics, Plasma Dynamics, and Lasers Conference, Honolulu, HI, June 8–10, 1987.

A87-48120

Garabedian, P.R., "Aspects of Supercritical Wing Theory," *Applied Numerical Mathematics* (ISSN 0168-9274), Vol. 3, May 1987, pp. 49–57.

A87-48727

Pfenninger, Werner, Chandra S. Vemuru, and J. Viken, "About the Design of Long Range LFC Transports with Advanced Supercritical LFC," AIAA 87-1284, 19th Fluid Dynamics, Plasma Dynamics, and Lasers Conference, Honolulu, HI, June 8–10, 1987.

A87-49979

Cheng, Gang, "Experimental Investigation of a Double Circular Arc Cascade with 73° Camber," *J. of Aerospace Power*, Vol. 2, Apr. 1987, pp. 109–112, 184. In Chinese, with abstract in English.

A87-52883

Costes, M., A. Gravelle, J.J. Philippe, S. Vogel, and H. Triebstein, "Investigation of Unsteady Subsonic Spoiler and Flap Aerodynamics," ICAS 15th Congress Proceedings, London, England, Sept. 7–12, 1986, Vol. 2, pp. 1243–1253. AIAA *J. of Aircraft* (ISSN 0021-8669), Vol. 24, Sept. 1987, pp. 629–637. Previously cited in issue 24, p. 3533, Accession no. A86-49106.

A88-12726

Torres, Francisco J., "Application of Digital Holographic Interferometry to Pressure Measurements of Symmetric, Supercritical, and Circulation Control Airfoils in Transonic Flow Fields," High Speed Photography, Videography, and Photonics IV Meeting, San Diego, CA, Aug. 19, 20, 1986. Society of Photo-Optical Instrumentation Engineers, Bellingham, WA, 1986, pp. 199–216.

A88-16332

Gao, Chao and Shijun Luo, "The Effects of Suction at Sidewall Around the Model in a Transonic Airfoil Wind Tunnel," *Acta Aeronautica et Astronautica Sinica*, Vol. 8, May 1987, pp. A274-A278. In Chinese, with abstract in English.

A88-19671

Buetefisch, Karl A. and Egon Stanewsky, "Experimental Flowfield Study on a Supercritical Airfoil," ICAS 15th Congress Proceedings, London, England, Sept. 7–12, 1986, Vol. 2, pp. 911–922. AIAA *J. of Aircraft* (ISSN 0021 8669), Vol. 24, Nov. 1987, pp. 783–788. Previously cited in issue 24, p. 3532, Accession no. A86-49074.

A88-20464

Ross, David S., "Redesign of a Supercritical Wing in the Presence of an Engine Nacelle," *J. of Computational Physics* (ISSN 0021-9991), Vol. 73, Dec. 1987, pp. 233–243.

A88-20946

Nandan, M. and M.A. Ramaswamy, "Lifting Symmetric Wing Design of Combat Aircraft," *Communications in Applied Numerical Methods* (ISSN 0748-8025), Vol. 3, Nov.–Dec. 1987, pp. 463–468.

A88-22531

Kinsey, D.W. and F.E. Eastep, "Navier-Stokes Solution for a Thick Supercritical Airfoil with Strong Shocks and Massively Separated Flow," AIAA 88-0706, 26th Aerospace Sciences Meeting, Reno, NV, Jan. 11–14, 1988.

A88-32231

Eckstrom, Clinton V., David A. Seidel, and Maynard C. Sandford, "Unsteady Pressure and Structural Response Measurements on an Elastic Supercritical Wing," AIAA 88-2277, 29th Structures, Structural Dynamics, and Materials Conference, Williamsburg, VA, Apr. 18–20, 1988, Part 1. AIAA, Washington, DC, 1988, pp. 509–519.

A88-41048

Daripa, Prabir, "On Inverse Airfoil Design," AIAA 88-2573, 6th Applied Aerodynamics Conference, Williamsburg, VA, June 6–8, 1988.

A88-45321

Su, Yaoxi, "Mechanism of Side Wall Effect for Transonic Airfoil Testing," *Acta Aeronautica et Astronautica Sinica* (ISSN 1000-6893), Vol. 9, Apr. 1988, pp. B173-B178. In Chinese, with abstract in English.

A88-45684

Murthy, A.V., "Effects of Aspect Ratio and Sidewall Boundary-Layer in Airfoil Testing," *AIAA J. of Aircraft* (ISSN 0021-8669), Vol. 25, Mar. 1988, pp. 244–249. Previously cited in issue 08, p.1036, Accession no. A87-22542.

A88-47455

Dadone, Andrea and Gino Moretti, "Fast Euler Solver for Transonic Airfoils. I - Theory. II - Applications," *AIAA Journal* (ISSN 0001-1452), Vol. 26, Apr. 1988, pp. 409–424.

A88-49016

Ruo, S.Y. and L.N. Sankar, "Euler Calculations for Wing-Alone Configuration," *AIAA J. of Aircraft* (ISSN 0021-8669), Vol. 25, May 1988, pp. 436–441. Previously cited in issue 08, p. 1033, Accession no. A87-22419.

A88-50326

Barnett, Mark, "Analysis of Crossover Between Local and Massive Separation on Airfoils," *AIAA Journal* (ISSN 0001-1452), Vol. 26, May 1988, pp. 513–521. Previously cited in issue 18, p. 2805, Accession no. A87-42355.

A88-50905

Zhang, Z.Y., X.T. Yang, and B. Laschka, "Design of a Supercritical Airfoil," ICAS 15th Congress Proceedings, London, England, Sept. 7–12, 1986, Vol. 1, pp. 67–70. *AIAA J. of Aircraft* (ISSN 0021-8669), Vol. 25, June 1988, pp. 503–506. Previously cited in issue 24, p. 3529, Accession no. A86-48982.

A88-51159

Thiede, P. and P. Krogmann, "Improvement of Transonic Airfoil Performance through Passive Shock/Boundary-Layer Interaction Control," *Turbulent Shear-Layer/Shock-Wave Interactions*, 1986, pp. 113–123.

A88-51425

Pfenninger, Werner and Chandra S. Vemuru, "Boundary Layer Crossflow Stabilization of High Subsonic Speed LFC Transport Airplanes," AIAA 88-0275, 26th Aerospace Sciences Meeting, Reno, NV, Jan. 11–14, 1988.

A88-51785

Nagamatsu, Henry T. and Todd W. Trilling, "Passive Transonic Drag Reduction of Supercritical and Helicopter Rotor Airfoils," AHS 2nd International Conference on Rotorcraft Basic Research, College Park, MD, Feb. 16–18, 1988.

A89-11108

Mavriplis, D.J., "Multigrid Solution of the Two-Dimensional Euler Equations on Unstructured Triangular Meshes," *AIAA Journal* (ISSN 0001-1452), Vol. 26, July 1988, pp. 824–831. Previously cited in issue 08, p. 1037, Accession no. A87-22577.

A89-12551

Tai, Tsze C., Gregory G. Huson, Raymond M. Hicks, and Gerald M. Gregorek, "Transonic Characteristics of a Humped Airfoil," *AIAA J. of Aircraft* (ISSN 0021-8669), Vol. 25, Aug. 1988, pp. 673–674. Previously cited in issue 18, p. 2804, Accession no. A87-42336.

A89-13528

Pfenninger, Werner and Chandra S. Vemuru, "Design Philosophy of Long Range LFC Transports with Advanced Supercritical LFC Airfoils," ICAS 16th Congress Proceedings, Jerusalem, Israel, Aug. 28–Sept. 2, 1988, Vol. 1. AIAA, Washington, DC, 1988, pp. 223–241.

A89-13685

Raghunathan, S. and S.T. McIlwain, "Transonic Shock Boundary Layer Interaction with Passive Control," ICAS 16th Congress Proceedings, Jerusalem, Israel, Aug. 28–Sept. 2, 1988, Vol. 2. AIAA, Washington, DC, 1988, pp. 1826–1834.

A89-22758

Breuer, M., "Computation of Flows Around Supercritical Profiles," *Aerodynamisches Institut, Abhandlungen*, No. 29, 1988, pp. 30–31. In German.

A89-25131

Murthy, A.V. and E.J. Ray, "Sidewall Boundary-Layer Removal Effects on Wall Adaptation in the Langley 0.3-Meter Transonic Cryogenic Tunnel," AIAA 89-0148, 27th Aerospace Sciences Meeting, Reno, NV, Jan. 9–12, 1989.

A89-27746

Kinsey, Don W. and F.E. Eastep, "Turbulence Modeling in Separated Flow Behind Strong Shocks," *AIAA J. of Aircraft* (ISSN 0021-8669), Vol. 26, Feb. 1989, pp. 185–186. Previously cited in issue 07, p. 941, Accession no.

A89-29263

Le Balleur, J.C. and P. Girodroux-Lavigne, "Viscous-Inviscid Strategy and Computation of Transonic Buffet," *ONERA TP 1988-111*, IUTAM 3rd Symposium Transsonicum, Goettingen, Federal Republic of Germany, May 24–27, 1988.

A89-32331

Harvey, W.D., "NASA Supercritical Laminar Flow Control Airfoil Experiment," CASI 29th Annual General Meeting on Conserving Energy in Air Transport, Toronto, Canada, May 4–5, 1982.

A89-34893

Lee, B.H.K. and F.C. Tang, "Transonic Buffet of a Supercritical Airfoil," *AIAA J. of Aircraft* (ISSN 0021-8669), Vol. 26, May 1989, pp. 459–464.

A89-41838

Simpson, L. Bruce and David L. Whitfield, "A Flux-Difference Split Algorithm for Unsteady Thin-Layer Navier-Stokes Solutions," AIAA 89-1995, 9th Computational Fluid Dynamics Conference, Buffalo, NY, June 13–15, 1989. AIAA, pp. 634–642.

A89-42010

Hess, Robert W., David A. Seidel, William B. Igoe, and Pierce L. Lawing, "Transonic Unsteady Pressure Measurements on a Supercritical Airfoil at High Reynolds Numbers," *AIAA J. of Aircraft* (ISSN 0021-8669), Vol. 26, July 1989, pp. 605–614. Previously cited in issue 08, p. 1032, Accession no. A87-22370.

A89-48657

Lee, B.H.K., F.A. Ellis, and J. Bureau, "Investigation of the Buffet Characteristics of Two Supercritical Airfoils," *AIAA J. of Aircraft* (ISSN 0021-8669), Vol. 26, Aug. 1989, pp. 731–736.

A89-50011

Ramaswamy, M.A., "Characteristics of a Typical Lifting Symmetric Supercritical Airfoil," *Developments in Fluid Mechanics and Space Technology*, 1988, pp. 203–216.

A89-50067

Seidel, David A., Clinton V. Eckstrom, and Maynard C. Sandford, "Transonic Region of High Dynamic Response Encountered on an Elastic Supercritical Wing," AIAA 28th Structures, Structural Dynamics, and Materials Conference, Monterey, CA, Apr. 6–8, 1987 and AIAA Dynamics Specialists Conference, Monterey, CA, Apr. 9–10, 1987, Part 2A, pp. 66-75) *AIAA J. of Aircraft* (ISSN 0021-8669), Vol. 26, Sept. 1989, pp. 870–875. Previously cited in issue 14, p. 2102, Accession no. A87-33662.

A90-12839

Oyibo, Gabriel A., "Closed-Form Solutions for Nonlinear Quasi-Unsteady Transonic Aerodynamics," 2nd International Symposium on Aeroelasticity and Structural Dynamics, Aachen, Federal Republic of Germany, Apr. 1–3, 1985, pp. 71–79. *AIAA Journal* (ISSN 0001-1452), Vol. 27, Nov. 1989, pp 1572–1578. Previously cited in issue 14, p. 1979, Accession no. A86-33231.

A90-13023

Lee, B.H.K., "Investigation of Flow Separation on a Supercritical Airfoil," *AIAA J. of Aircraft* (ISSN 0021-8669), Vol. 26, Nov. 1989, pp. 1032–1037.

A90-19390

Raghunathan, S. and S.T. McIlwain, "Further Investigations of Transonic Shock-Wave Boundary-Layer Interaction with Passive Control," ICAS 16th Congress Proceedings, Jerusalem, Israel, Aug. 28–Sept. 2, 1988, Vol. 2, pp. 1826–1834. *AIAA J. of Aircraft* (ISSN 0021-8669), Vol. 27, Jan. 1990, pp. 60–65. Previously cited in issue 03, p. 260, Accession no. A89-13685.

A90-19392

Eckstrom, Clinton V., David A. Seidel, and Maynard C. Sandford, "Unsteady Pressure and Structural Response Measurements on an Elastic Supercritical Wing," AIAA 29th Structures, Structural Dynamics, and Materials Conference, Williamsburg, VA, Apr. 18–20, 1988, Part 1, pp. 509–519. *AIAA J. of Aircraft* (ISSN 0021-8669), Vol. 27, Jan. 1990, pp. 75–80. Previously cited in issue 12, p. 1818, Accession no. A88-32231.

A90-19686

Hartwich, Peter M., "Fresh Look at Floating Shock Fitting," AIAA 90-0108, 28th Aerospace Sciences Meeting, Reno, NV, Jan. 8–11, 1990.

A90-24142

Bokser, V.D., "Separation Development and its Effect on the Aerodynamics of Supercritical Profiles at Transonic Velocities," *TsAGI, Uchenye Zapiski* (ISSN 0321-3429), Vol. 19, No. 5, 1988, pp. 60–69. In Russian.

A90-38497

Romberg, H.J., "Two-Dimensional Wall Adaption in the Transonic Wind Tunnel of the AIA," *Experiments in Fluids* (ISSN 0723-4864), Vol. 9, No. 3, May 1990, pp. 177–180.

A90-40680

Murthy, A.V. and E.J. Ray, "Sidewall Boundary-Layer Removal and Wall Adaptation Studies," *AIAA J. of Aircraft* (ISSN 0021-8669), Vol. 27, June 1990, pp. 495–500. Previously cited in issue 09, p. 1295, Accession no. A89-25131.

A90-42351

Hua, Jun, Zhongyin Zhang, Zhide Qiao, and Peishen Wang, "A Transonic Airfoil Design Method and Examples," *Acta Aerodynamica Sinica* (ISSN 0258-1825), Vol. 8, No. 2, 1990, pp. 117–123. In Chinese, with abstract in English.

A90-42394

Lee, B.H.K., "Flow Separation on a Supercritical Airfoil," *Canadian Aeronautics and Space Journal* (ISSN 0008-2821), Vol. 36, June 1990, pp. 81–89.

A90-45866

Gartenberg, Ehud, William G. Johnson, Jr., Charles B. Johnson, Debra L. Carraway, and Robert E. Wright, "Transition Detection Studies in the Cryogenic Environment," AIAA 90-3024, 8th Applied Aerodynamics Conference, Portland, OR, Aug. 20–22, 1990, Part 1. AIAA, Washington, DC, 1990, pp. 234–244.

A91-11157

Lee, B.H.K., "Transonic Buffet on a Supercritical Aerofoil," *Aeronautical Journal* (ISSN 0001-9240), Vol. 94, May 1990, pp. 143–152.

A91-19281

Murthy, A.V., "An Experimental Study of Wall Adaptation and Interference Assessment Using Cauchy Integral Formula," AIAA 91-0399, 29th Aerospace Sciences Meeting, Reno, NV, Jan. 7–10, 1991.

A91-24424

Hirose, Naoki and Nobuhiko Kamiya, "Blunt Trailing Edge Analysis of Supercritical Airfoils by a Navier-Stokes Code," ICAS 17th Congress Proceedings, Stockholm, Sweden, Sept. 9–14, 1990, Vol. 1. AIAA, Washington, DC, 1990, pp. 1184–1193.

A91-24435

Hua, J. and Z.Y. Zhang, "Transonic Wing Design for Transport Aircraft," ICAS 17th Congress Proceedings, Stockholm, Sweden, Sept. 9–14, 1990, Vol. 2. AIAA, Washington, DC, 1990, pp. 1316–1322.

A91-39936

Pfenninger, Werner, Chandra S. Vemuru, and F. Collier, "Blunt-Nosed Swept Supercritical LFC Wings without Nose Flaps," IUTAM Symposium Proceedings, Toulouse, France, Sept. 11–15, 1989, pp. 401–415.

A91-45107

Hartwich, Peter M., "Fresh Look at Floating Shock Fitting," *AIAA Journal* (ISSN 0001-1452), Vol. 29, July 1991, pp. 1084–1091. Previously cited in issue 06, p. 754, Accession no. A90-19686.

A91-53814

Valarezo, Walter O., Chet J. Dominik, Robert J. McGhee, Wesley L. Goodman, and Keith B. Paschal, "Multi-Element Airfoil Optimization for Maximum Lift at High Reynolds Numbers," AIAA 91-3332, 9th Applied Aerodynamics Conference, Baltimore, MD, Sept. 23–25, 1991, Vol. 2. AIAA, Washington, DC, 1991, pp. 969–976.

A91-53884

Inger, G.R., "Application of Oswaititsch's Theorem to Supercritical Airfoil Drag Calculation," AIAA 91-3210, 9th Applied Aerodynamics Conference, Baltimore, MD, Sept. 23–25, 1991.

A92-15646

Ingraldi, Anthony M., Richard J. Re, Odis C. Pendergraft, Jr., and Timmy T. Kariya, "Interference Effects of Very High Bypass Ratio Nacelle Installations on a Low-Wing Transport," ASME 91-GT-241, 36th International Gas Turbine and Aeroengine Congress and Exposition, Orlando, FL, June 3–6, 1991.

A92-24413

Lee, B.H.K., "Effects of Trailing-Edge Flap on Buffet Characteristics of a Supercritical Airfoil," AIAA *J. of Aircraft* (ISSN 0021-8669), Vol. 29, Jan.–Feb. 1992, pp. 93–100.

A92-26421

Gartenberg, Ehud, William G. Johnson, Jr., Robert E. Wright, Jr., Debra L. Carraway, and Charles B. Johnson, "Boundary-Layer Transition Detection in a Cryogenic Wind Tunnel Using Infrared Imaging," AIAA *Journal* (ISSN 0001-1452), Vol. 30, Feb. 1992, pp. 444–446. Previously cited in issue 21, p. 3372, Accession no. A90-45866.

A92-30171

Bokser, V.D. and S.V. Zhigulev, "Experimental Study of the Characteristics of Boundary-Layer Development on an Airfoil," *TsAGI, Uchenye Zapiski* (ISSN 0321-3439), Vol. 21, No. 4, 1990, pp. 3–10. In Russian.

A92-30205

Zhigulev, S.V. and A.V. Fedorov, "Investigation of the Effect of an Ultrasonic Acoustic Field on Boundary Layer Separation on an Airfoil," *TsAGI, Uchenye Zapiski* (ISSN 0321-3439), Vol. 21, No. 6, 1990, pp. 58–66. In Russian.

A92-31158

Simpson, L.B. and David L. Whitfield, "Flux-Difference Split Algorithm for Unsteady Thin-Layer Navier-Stokes Solutions," AIAA *Journal* (ISSN 0001-1452), Vol. 30, Apr. 1992, pp. 914–922. Previously cited in issue 18, p. 2752, Accession no. A89-41838.

A92-31877

Koval'nogov, S.A. and G.K. Shapovalov, "Experimental Investigation of the Air Bypass Effect in the Shock-Wave Region on the Aerodynamic Characteristics of a Wing Profile," *TsAGI, Uchenye Zapiski* (ISSN 0321-3439), Vol. 22, No. 2, 1991, pp. 95–99. In Russian.

A92-31879

Viskov, A.N., S.G. Ignat'ev, and E.V. Pisanov, "Experimental Investigation of the Optimal Deflection of a Single-Slotted Flap with Different Degrees of Extension on a Modern Supercritical Profile," *TsAGI, Uchenye Zapiski* (ISSN 0321-3439), Vol. 22, No. 2, 1991, pp. 105–108. In Russian.

A92-31884

Koval'nogov, S.A., V. Iu. Ter-Grigorian, and G.K. Shapovalov, "Investigation of the Aerodynamic Features of Flows Past Models using Thin-Film Capacitance-Type Sensors of Pressure Oscillations," *TsAGI, Uchenye Zapiski* (ISSN 0321-3439), Vol. 22, No. 2, 1991, pp. 124–129. In Russian.

A92-31885

Bokser, V.D., "Some Characteristics of Transonic Flow Past an Airfoil in the Case of Developed Separation," *TsAGI, Uchenye Zapiski* (ISSN 0321-3439), Vol. 22, No. 2, 1991, pp. 130–132. In Russian.

A92-34596

Dansberry, Bryan E., "Dynamic Characteristics of a Benchmark Models Program Supercritical Wing," AIAA 92-2368, AIAA/ASME/ASCE/AHS/ASC 33rd Structures, Structural Dynamics, and Materials Conference, Dallas, TX, Apr. 13–15, 1992, Part 5. AIAA, Washington, DC, pp. 3122–3130.

N71-18733

Civinskas, K.C., G.A. Kraft, and J.B. Whitlow, Jr., *Parametric Engine Study for a Mach 0.98 Commercial Air Transport*, NASA TM-X-52961, 1971.

N71-29011

Kraft, G.A. and J.B. Whitlow, Jr., *Optimization of Engines for a Mach 0.98 Transport with Low Takeoff and Approach Noise Levels*, NASA TM-X 67865, 1971.

N71-30769

Ayers, Theodore G. and A.L. Braslow, "Application of Advanced Aerodynamics to Future Transport Aircraft," *NASA Aircraft Safety and Operating Probl.*, Vol. 1, 1971 pp. 165–176. See N71-30756 18-02.

N71-33246

Kraft, G.A. and J.B. Whitlow, Jr., *Optimization of Engines for Commercial Air Transports Designed for Cruise Speeds Ranging from Mach 0.90 to Mach 0.98*, NASA TM-X-67906, 1971.

N72-19994

Seidel, David A., *The Supercritical Wing*, NASA TT-F-14242, 1972 Translated into English from *Flug-Rev. Int.* (West Germany), No. 2, Feb. 1972, pp. 40, 42, 44, and 46.

N72-26016

Ardema, M.D. and L.J. Williams, *Transonic Transport Study: Structures and Aerodynamics*, NASA TM-X-62157, 1972.

N72-28003

Lange, R.H., R.F. Sturgeon, W.E. Adams, E.S. Bradley, J.F. Cahill, R.R. Eudaily, J.P. Hancock, and J.W. Moore, *Study of the Application of Advanced Technologies to Long-Range Transport Aircraft, Vol. 2: Research and Development Requirements*, NASA CR-112089, 1972.

N72-29012

DeCosta, A.L., K.K. Ishimisu, C.R. Pickrel, D.S. Miller, and T.A. Zierten, "Analytical Investigation of Variable Camber Concepts," AD-740369, Jan.–Aug. 1971.

N72-33272

Nash, J.F. and R.M. Scruggs, *Three Dimensional Compressible Boundary-Layer Computations for a Finite Swept Wing*, NASA CR-112158, 1972.

N74-10029

Nash, J.F., R.M. Scruggs, and W.A. Stevens, *Additional Three-Dimensional Boundary-Layer Computations for a Finite Swept Wing*, NASA CR-132335, 1972.

N74-14709

“Aerodynamic Drag,” AGARD CP-124, Fluid Dynamics Panel Specialists Meeting, Izmir, Turkey, Apr. 10–13, 1973, partly in English and partly in French.

N74-14719

Kscprzynski, J.J., “Drag of Supercritical Airfoils in Transonic Flow,” *AGARD Aerodynamic Drag*, Oct. 1973.

N74-21653

Williams, J.L. and W.T. Suit, *Extraction from Flight Data of Longitudinal Aerodynamic Coefficients for F-8 Aircraft with Supercritical Wing*, NASA TN-D-7470, 1974.

N74-32416

Barger, R.L. and C.W. Brooks, Jr., *A Streamline Curvature Method for Design of Supercritical and Subcritical Airfoils*, NASA TN-D-7770, 1974.

N75-10006

Williams, J.L. and W.T. Suit, *Extraction from Flight Data of Lateral Aerodynamic Coefficients for F-8 Aircraft with Supercritical Wing*, NASA TN-D-7749, 1974.

N75-15602

“NASA Aeronautics,” NF-46/5-74, 1974.

N75-15610

Carlson, L.A., *Development of Inverse Inviscid Transonic Solution Methods*, NASA CR-142016, Nov. 1973–Dec. 1974.

N75-17300

Gustavsson, A.L. and R. Mattsson, “Transonic Wind Tunnel Tests of the PT3 Model, a Supercritical Wing on a Simple Body, Part 1: Summary and Comparison with Earlier Results,” FFA-TN-AU-1134-PT-1, Aug. 1974.

N75-18167

Bauer, F., P.R. Garabedian, D. Korn, A. Jameson, M. Beckmann, and H.P. Kuenzi, *Supercritical Wing Sections 2, Vol. 108*, NASA CR-142229, 1975.

N75-26975

Hurley, F.X., F.W. Spaid, F.W. Roos, L.S. Stivers, Jr., and A. Bandettini, *Detailed Transonic Flow Field Measurements about a Supercritical Airfoil Section*, NASA TM-X-3244, 1975.

N75-29016

Bower, R.E., “Opportunities for Aerodynamic-Drag Reduction,” NASA/University Conference on Aeronautics, 1975, pp. 323–352.

N75-70699

Goodson, K.W., *Low Speed Aerodynamic Characteristics of a Rectangular, Aspect-Ratio-6, Slotted Supercritical Airfoil Wing Having Several High-Lift Flap Systems*, NASA TM-X-2317, 1971.

N75-70710

Johnson, W.G., Jr., *Longitudinal Aerodynamic Characteristics of a Wing-Body Combination Having a Rectangular, Aspect-Ratio-6, Slotted Supercritical Wing with Externally Blown Flaps*, NASA TM-X-2388, 1971.

N75-70711

Johnson, W.G., Jr., *Pressure Distributions on a Rectangular, Aspect-Ratio-6, Slotted Supercritical Airfoil Wing Having Several High-Lift Flap Systems*, NASA TM-X-2851, 1973.

N76-10032

Barger, R.L. and C.W. Brooks, Jr., "Computerized Procedures for Airfoil Design," *Aerodynamic Analyses Requiring Advanced Computers*, Part 2, 1975, pp. 703–712.

N76-11044

Fournier, P.G., *Low Speed Aerodynamic Characteristics of a Transport Model Having 42.33° Swept Low Wing with Supercritical Airfoil, Double-Slotted Flaps, and T-Tail or Low Tail*, NASA TM-X-3276, 1975.

N76-11057

Scheerer, J., "Results on the Use of Shock-Free Transonic Airfoils for Transport Aircraft," ESA-TT-175, *Aerodynamics of Airfoils in Transonic Flow*, July 1975, pp. 198–226. Translated into English. DGLR 72-130, Cologne Report DLR-Mitt-73-04, 1973, pp. 241–275.

N76-11059

Eberle, A., et al, "Transonic Airfoil Theory: a Critical Comparison of Various Methods," ESA-TT-175, *Aerodynamics of Airfoils in Transonic Flow*, pp. 246–271, July 1975. Translated into English. DGLR 72-132, Cologne Report DLR-Mitt-73-04, 1973, pp. 295–328.

N76-11088

Haight, C.H., T.D. Reed, and B.T. Morland, "Design Studies of Transonic and STOL Airfoils with Active Diffusion Control," (AD-A011928; ATC-B-94300/4CR-24), Apr. 1973–19 June 1974.

N76-13076

Sobieczky, H., "Design of Supercritical Wing Sections with the Aid of Rheoelectrical Analogy," DLR-FB-75-43, May 1975. In German with an English summary.

N76-16042

Vandervooren, J. and J.W. Slooff, "Differences in Inviscid Isentropic Models used for Finite Difference Calculation of Transonic Flow with Shocks about Airfoils: the Prediction of Wave Drag," NLR-TR-74002-U, Jan. 1974.

N76-19057

Gustavsson, A. and R. Vanino, Design and Wind Tunnel Measurements of a Wing-Body Combination with Supercritical Airfoil, NASA TT-F-16916, 1976. Translated into English. Vol. 23, Jul.–Aug. 1975 pp. 257–262.

N76-20081

Johnson, W.G., Jr., *Pressure Distributions on a Rectangular Aspect-Ratio-6, Slotted Supercritical Airfoil Wing with Externally Blow Flaps*, NASA TM-X-3337, 1976.

N76-22159

Farmer, M.G., P.W. Hanson, and E.C. Wynne, "Comparison of Supercritical and Conventional Wing Flutter Characteristics," AIAA/ASME/SAE 17th Structures, Structural Dynamics, and Materials Conference, Valley Forge, PA, May 5–7, 1976. Also available as NASA TM-X-72837.

N76-24181

Redeker, G., "Calculation of Buffet Onset for Supercritical Airfoils," DLR-IB-151-75/12, IUTAM Symposium Transsonicum II, Goettingen, West Germany, Sept. 1975. Aug. 1975.

N76-27179

Smith, J., "Computations with the Garabedian and Korn Program for Two-Dimensional Transonic Flows with Embedded Shocks," NLR-TR-74091-U, July 1974.

N76-31479

Ross, R. and P.B. Rohne, "The Character of Flow Unsteadiness and its Influence on Steady State Transonic Wind Tunnel Measurements," AGARD Wind Tunnel Design and Testing Technology Symposium, London, England, Oct. 6–10, 1975.

N76-79273

Leslie, R.S., "An Experimental Investigation of a Shock Location Prediction Method of Supercritical Airfoils," AD-A023347; GAE/AE/74D-18, M.S. Thesis, Dec. 1974.

N77-10351

Garabedian, P.R., "Transonic Flow Theory of Airfoils and Wings," *Advances in Engineering Sciences*, Vol. 4, 1976, pp. 1349–1358.

N77-10365

Whitcomb, Richard T., "Advanced Transonic Aerodynamic Technology," *Advances in Engineering Sciences*, Vol. 4, 1976, pp.1521–1537.

N77-13005

Gustavsson, A.L., "Design and Test of a Wind Tunnel Model PT2, a Sonic Roof-Top Wing on a Simple Body," FFA-TN-AU-928, 1976.

N77-13006

Mattsson, R. and A.L. Gustavsson, "Transonic Wind Tunnel Tests of the PT3 Model, a Supercritical Wing on a Simple Body, Part 2: Test Results and Analysis," FFA-TN-AU-1134-PT-2, 1976.

N77-15993

Boerstael, J.W., "Hodograph Theory and Shock Free Airfoils," ONR Conference on Transonic Flow, University of California, Los Angeles, CA, Mar. 30–31, 1976.

N77-18060

Tijdeman, H., "On the Unsteady Aerodynamic Characteristics of Oscillating Airfoils in Two-Dimensional Transonic Flow," ONR Transonic Flow Conference, Los Angeles, CA, Mar. 30–31, 1976.

N77-19017

Garner, H.C., "A Practical Approach to the Prediction of Oscillatory Pressure Distributions on Wings in Supercritical Flow," RAE-TR-74181, London Aeronautical Research Council, 1976.

N77-20011

Redeker, G. and H.J. Proksch, "The Prediction of Buffet Onset and Light Buffet by Means of Computational Methods," *AGARD Prediction of Aerodynamic Loading*, Feb. 1977.

N77-21045

Pollock, N. and B.D. Fairlie, "An Investigation of Supercritical Aerofoil BGK-1, Part 1: Near Design Point Tests and Comparisons with Theory," ARL/AERO-REPT-144-PT-1; PB-265472, Nov. 1975.

N77-21046

Fairlie, B.D. and N. Pollock, "An Investigation of Supercritical Aerofoil Tests, BGK-1, Part 3: Extended Subsonic and Transonic Tests," ARL/AERO-REPT-146-PT-3, Document includes a Microfiche supplement, Nov. 1975.

N77-21060

Koester, H. and G. Redeker, "Supercritical Wing Profile DVFLR-R2. Results of Calculations," DLR-IB-151-76/7, Aug. 1976. In German.

N77-25081

Carlson, L.A., *TRANDES: a FORTRAN Program for Transonic Airfoil Analysis or Design*, NASA CR-2821, Jun. 1977.

N77-26124

Eberle, A., "An Exact Hodograph Method for the Design of Supercritical Airfoils," MBB-UFE-1168-O, Apr. 1975. In German with an English summary.

N77-29098

Montoya, Lawrence C. and Richard D. Banner, *F-8 Supercritical Wing Flight Pressure, Boundary Layer, and Wake Measurements and Comparisons with Wind Tunnel Data*, NASA TM-X-3544, 1977.

N77-29100

Roos, F.W. and D.W. Riddle, *Measurements of Surface-Pressure and Wake-Flow Fluctuations in the Flow Field of a Whitcomb Supercritical Airfoil*, NASA TN-D-8443, 1977.

N77-32080

DeAngelis, V. Michael and R.C. Monaghan, *Buffet Characteristics of the F-8 Supercritical Wing Airplane*, NASA TM-56049, 1977.

N77-33115

Hallissy, J.B. and Theodore G. Ayers, *Transonic Wind-Tunnel Investigation of the Maneuver Potential of the NASA Supercritical Wing Concept, Phase I*, NASA TM-X-3534, 1977.

N77-33116

Mann, M.J. and R.A. Langhans, *Transonic Aerodynamic Characteristics of a Supercritical-Wing Transport Model with Trailing-Edge Controls*, NASA TM-X-3432, 1977.

N77-33117

Mann, M.J. and R.A. Langhans, *Transonic Aerodynamic Characteristics of a Supercritical-Wing Transport Model with Trailing-Edge Controls, Supplement, Part I*, NASA TM-X-3431, 1977.

N77-85474

Supercritical Wing Technology: a Report on Flight Evaluations, NASA SP-301, 1972.

N77-85475

Whitcomb, Richard T., "The NASA Supercritical Airfoil and its Application to Swept Wings," *Supercritical Wing Technology: A Report on Flight Evaluation*, Feb. 29, 1972, pp. 1–12.

N77-85476

Palmer, W.E. and D.W. Elliott, "Summary of T-2C Supercritical Wing Program," *Supercritical Wing Technology: A Report on Flight Evaluation*, Feb. 1972, pp. 13–34.

N77-85477

Kelly, T.C. and Richard T. Whitcomb, "Evaluation of the F-8 Supercritical Wing Configuration," *Supercritical Wing Technology: A Report on Flight Evaluation*, Feb. 1972, p. 35–48.

N77-85478

Andrews, W.H., "Status of the F-8 Supercritical Wing Program," *Supercritical Wing Technology: A Report on Flight Evaluation*, Feb. 29, 1972, pp. 49–58.

N77-85479

Pyle, Jon S., "Preliminary Lift and Drag Characteristics of the F-8 Supercritical Wing Airplane," *Supercritical Wing Technology: A Report on Flight Evaluation*, Feb. 29, 1973, pp. 59–70.

N77-85480

Montoya, Lawrence C. and Richard D. Banner, "F-8 Supercritical Wing Pressure Distribution Evaluation," *Supercritical Wing Technology: A Report on Flight Evaluation*, Feb. 29, 1972, pp. 71–84.

N77-85481

DeAngelis, V. Michael and Richard D. Banner, "Buffet Characteristics of the F-8 Supercritical Wing Airplane," *Supercritical Wing Technology: A Report on Flight Evaluation*, Feb. 29, 1972, pp. 85–96.

N77-85482

McMurtry, Thomas C., Neil W. Matheny, and Donald H. Gatlin, "Piloting and Operational Aspects of the F-8 Supercritical Wing Airplane," *Supercritical Wing Technology: A Report on Flight Evaluation*, Feb. 29, 1972, pp. 97–110.

N77-85483

Whitcomb, Richard T., "Comments on Wind-Tunnel-Flight Correlations for the F-8 Supercritical Wing Configurations," *Supercritical Wing Technology: A Report on Flight Evaluation*, Feb. 29, 1977, pp. 111–120.

N77-85484

Weil, Joseph and R.C. Dingeldein, "Summary and Future Plans," *Supercritical Wing Technology: A Report on Flight Evaluation*, Feb. 29, 1972, pp. 121–133.

N78-16018

Bauer, F., P.R. Garabedian, and D. Korn, "Supercritical Wing Sections 3," *Economics and Mathematical Systems*, Vol. 150, Nov. 1977. Also available as NASA CR-155581, 1977.

N78-16023

Tai, T.C., "Theoretical Aspects of Dromedaryfoil, Interim Report," Jan. 1976–Jan. 1977.

N78-18009

Vanegmond, J.A. and J.W. Boerstoeel, "Collection of Supercritical Aerofoils Obtained with the NLR Hodograph Method," Sept. 1977.

N78-19069

Sims, K.L. "An Aerodynamic Investigation of a Forward Swept Wing," M.S. Thesis, Dec. 1977, (AD-A048898; AFIT/GAE/AA/77D-14).

N78-19168

Pope, R.G., Jr., "Analysis and Design of a Cooled Supercritical Airfoil Test Model," M.S. Thesis, Dec. 1977, (AD-A048895; AFIT/GAE/AA/77D-11).

N78-20140

Matheny, Neil W. and Donald H. Gatlin, *Flight Evaluation of the Transonic Stability and Control Characteristics of an Airplane Incorporating a Supercritical Wing*, NASA TP-1167, 1978.

N78-22041

Grenon, R. and J. Thers, "Study of a Supercritical Profile with Oscillating Control Surface in Sub- and Transonic Flows," *AGARD Unsteady Aerodynamics*, Feb. 1978. In French with an English summary.

N78-23056

Monaghan, R.C., *Flight-Measured Buffet Characteristics of a Supercritical Wing and a Conventional Wing on a Variable-Sweep Airplane*, NASA TP-1244, 1978.

N78-23058

Magnus, R.J., "Some Numerical Solutions of Inviscid, Unsteady, Transonic Flows over the NLR 7301 Airfoil," (AD-A051837; CASD-LVP-78-013).

N78-23061

Elzweig, S. and P. Baronti, "An Investigation of Wall and Back Pressure Effects in Transonic Interference," (AD-A052167; GASL-TR-245), Jun. 1977.

N78-24077

Harris, C.D. and D.W. Bartlett, *Tabulated Pressure Measurements of a NASA Supercritical-Wing Research Airplane Model with and without Fuselage Area-Rule Additions at Mach 0.25 to 1.00*, NASA TM-X-2634, 1972.

N78-24078

Bartlett, D.W. and R.J. Re, *Wind-Tunnel Investigation of Basic Aerodynamic Characteristics of a Supercritical-Wing Research Airplane Configuration*, NASA TM-X-2470, 1972.

N78-24079

Harris, C.D., *Wind-Tunnel Measurements of Aerodynamic Load Distribution on a NASA Supercritical-Wing Research Airplane Configuration*, NASA TM-X-2469, 1972.

N78-24080

Bartlett, D.W. and C.D. Harris, *Aerodynamic Characteristics of a NASA Supercritical-Wing Research Airplane Model with and without Fuselage Area-Rule Additions at Mach 0.25 to 1.00*, NASA TM-X-2633, 1972.

N78-26113

Tijdeman, H., P. Schippers, and A. J. Persoon, "Unsteady Airloads on an Oscillating Supercritical Airfoil," *AGARD Specialists' Meeting on Unsteady Airloads in Separated and Transonic Flow*, Lisbon, Portugal, Apr. 17-22, 1977.

N78-27079

Harris, C.D., *Wind-Tunnel Investigation of Effects of Trailing-Edge Geometry on a NASA Supercritical Airfoil Section*, NASA TM-X-2336, 1971.

N78-28059

Boerstoeel, J.W., "Design and Analysis of a Hodograph Method for the Calculation of Supercritical Shock-Free Aerofoils," Ph.D. Thesis, Apr. 1977.

N78-29074

Tijdeman, H., "Investigations of the Transonic Flow Around Oscillating Airfoils," Ph.D. Thesis, Oct. 1977.

N78-30039

Capone, F.J., *Aerodynamic Characteristics Induced on a Supercritical Wing due to Vectoring Twin Nozzles at Mach Numbers from 0.40 to 0.95*, NASA TM-78746, 1978.

N78-30056

Luckring, J.M. and M.J. Mann, *Theoretical Estimation of the Transonic Aerodynamic Characteristics of a Supercritical-Wing Transport Model with Trailing-Edge Controls*, NASA TP-1253, 1978.

N78-31043

Perry, B., III, *Control-Surface Hinge-Moment Calculations for a High-Aspect-Ratio Supercritical Wing*, NASA TM-78664, 1978.

N78-70794

Garabedian, P.R., "Wing: Supercritical," Reprinted from McGraw Hill Yearbook Science and Technology, 1977. Also available as NASA CR-155394, 1977.

N79-13056

Friend, Edward L. and Glen M. Sakamoto, *Flight Comparison of the Transonic Agility of the F-111A Airplane and the F-111 Supercritical Wing Airplane*, NASA TP-1368, 1978.

N79-14014

Painter, Weneth D. and L.J. Caw, *Design and Physical Characteristics of the Transonic Aircraft Technology (TACT) Research Aircraft*, NASA TM-56048, 1978.

N79-16804

Mann, M.J., *The Design of Supercritical Wings by the use of Three-Dimensional Transonic Theory*, NASA TP-1400, 1979.

N79-17801

Feagin, R.C. and W.D. Morrison, *Delta Method, an Empirical Drag Buildup Technique*, NASA CR-151971, 1979.

N79-18951

Schmidt, W., "Progress in Transonic Flow Computations Analysis and Design Methods for Three-Dimensional Flows," *Computational Fluid Dynamics*, Vol. 2, 1976.

N79-20002

Lux, David P., "In-Flight Three-Dimensional Boundary Layer and Wake Measurements from a Swept Supercritical Wing," *Advanced Technology Airfoil Research*, Vol. 1, Pt. 2, 1978, pp. 643–655.

N79-20037

Shankar, V., N.D. Malmuth, and J.D. Cole, "A Consistent Design Procedure for Supercritical Airfoils in Free Air and a Wind Tunnel," *Advanced Technology Airfoil Research*, Vol. 1, Part 1, 1979, pp. 101–117. Also available as AIAA 78-103, 1978.

N79-20049

Johnson, R.R. and R.M. Hicks, "Application of Numerical Optimization to the Design of Advanced Supercritical Airfoils," *Advanced Technology Airfoil Research*, Vol. 1, Part 1, 1979, pp. 315–325.

N79-25024

Welge, H.R. and J.P. Crowder, *Simulated Propeller Slipstream Effects on a Supercritical Wing*, NASA CR-152138, 1978.

N79-28136

McFadden, G.B., *An Artificial Viscosity Method for the Design of Supercritical Airfoils*, NASA CR-158840, 1979.

N79-32178

Fulker, J.L. "Aerodynamic Data for Three Supercritical Airfoils: RAE (NPL) 9515 and 9530, and RAE 9550, Parts 1 and 2," London Aeronautical Research Council, (ARC-R/M-3820; BR67756; ISBN-0-11-471153-4), 1978.

N79-33159

Pyle, Jon S. and Louis L. Steers, *Flight Determined Lift and Drag Characteristics of an F-8 Airplane Modified with a Supercritical Wing with Comparison to Wind-Tunnel Results*, NASA TM-X-3250, 1975.

N79-75698

Pfenninger, Werner, "Further Basic Investigations on the Critical Wing Wake Reynolds Number for Laminar Flow on a Fuselage Downstream of a Wing Fuselage Juncture," (BLC-96; NAI-57-659), May 1957.

N79-76856

Brodzki, Z., "New Flight Profiles," *Tech. Lotnicza i Astronautyczna*, Vol. 32, No. 6, 1977. In Polish. Translated into English.

N79-78315

Mooty, H.D., "ATW Wind Tunnel Data: Four Wing-Mounted 600 Gallon Tanks on TACT Wings Having Conventional and Supercritical Airfoils Lambda Equals 26°," (FZA-635-002), June 1976.

N79-78318

Molozhavgtsev, V., "Supercritical Profile," *Aviat. i Kosmonavtika* (USSR), No. 10, Mar. 1972. In Russian. Translated into English.

N79-78363

Lang, M.T., "ATW Wind Tunnel Data Supercritical Conventional Airfoil Comparisons," (FZA-635-001), June 1976.

N80-11093

Stephens, H.E. and D.E. Hobbs, "Design and Performance Evaluation of Supercritical Airfoils for Axial Flow Compressors," (AD-A071206; PWA-FR-11455), June 1979.

N80-12051

McFadden, G.B., "An Artificial Viscosity Method for the Design of Supercritical Airfoils," Ph.D. Thesis, 1979. Avail: Univ. Microfilms Order No. 7925492.

N80-12054

Omar, E., T. Zierten, and A. Mahal, *Two-Dimensional Wind-Tunnel Tests of a NASA Supercritical Airfoil with Various High-Lift Systems. Vol. 1: Data Analysis*, NASA CR-2214, 1977.

N80-12055

Omar, E., T. Zierten, M. Hahn, E. Szpiro, and A. Mahal, *Two-Dimensional Wind-Tunnel Tests of a NASA Supercritical Airfoil with Various High-Lift Systems, Vol. 2: Test Data*, NASA CR-2215, 1977.

N80-13010

Lock, R.C., "Theoretical Study of the Supercritical Aerofoil NLR 7301, and Comparison with Experiments," (RAE-TR-78119; RAE-AERO-3444; BR66980), Sept. 1978.

N80-20228

Sandford, Maynard C., R.H. Ricketts, F.W. Cazier, Jr., and H.J. Cunningham, *Transonic Unsteady Airfoils on an Energy Efficient Transport Wing with Oscillating Control Surfaces*, NASA TM-81788, 1980.

N80-22276

Fritz, W., S. Leicher, W. Schmidt, and H.W. Stock, "Supercritical Wing Design Studies for Transport Aircraft, Vol. 2: Theoretical Studies," (BMFT-FB-W-79-07-VOL-2), July, 1979. In German with an English summary.

N80-22317

Arndt, R., "Civil Component Program Wing Predimensioning of a Supercritical Wing," BMFT-FB-W-77-38 DFVLR, July 1979. In German. Translated into English.

N80-23273

Zwaan, R.J., "Summary of Data Required for the AGARD SMP Activity Standard Aeroelastic Configurations - Two-Dimensional Configurations," (NLR-MP-79015-U), Apr. 1979.

N80-27291

Yang, T.Y., P. Guruswamy, and A.G. Striz, "Flutter Analysis of a Two-Dimensional and Two-Degree-of-Freedom Supercritical Airfoil in Small-Disturbance Unsteady Transonic Flow," (AD-A084172; AFWAL-TR-80-3010), Mar. 1980.

N80-29249

Boppe, C.W., *Towards Complete Configurations Using an Embedded Grid Approach*, NASA CR-3030, 1978.

N80-29262

Krenz, G., "Transonic Airfoils: the Design of a Supercritical Wing for Transport Aircraft," (BMFT-FB-W-79-11; PR-2), Oct. 1978. In German with an English summary.

N80-31365

Bagley, J.A. and A.G. Kurn, "Jet Interference on Supercritical Wings. Part 1: Experiments on a Two-Dimensional Wing. Part 2: Experiments on a Swept Wing," (ARC-R/M-3845; BR74032; RAE-TR-77007; RAE-TR-77008; ARC-37279; ARC-37281), London Aeronautical Research Council, Jan.1977.

N80-74279

Palmer, W.E., D.W. Elliott, and D.L. Abbott, "Substantiating Aerodynamic Characteristics and Loads for the T-2 Supercritical Airfoil Flight Evaluation. Appendix A: A.09 Scale T-2 Supercritical Model Wind Tunnel Test and Data Presentation. Appendix B: Flight Test Program and Instrumentation Requirements for the T-2 Supercritical Aircraft," (NR70H-424), Sept. 1970.

N81-11019

Couston, M., J.J. Angelini, and J.P. Meurze, "Comparison of Unsteady Pressure Fields Computed and Measured on the ZKP Model," AGARD-R-688, 50th Conference of the Commission on Structures and Materials, Athens, Greece, Apr. 1980. In French with an English summary.

N81-12036

Vandenberg, B. and B. Oskam, "Boundary Layer Measurements on a Two Dimensional Wing with Flap and a Comparison with Calculations," (NLR-MP-79034-U), AGARD Symposium on Turbulent Boundary Layers: Expt., Theory and Modeling, The Hague, Sept. 24–25, 1979.

N81-15970

"The High-Speed Airfoil Program," *The High-Speed Frontier*, (NLR-MP-79034-U), 1980, pp. 3–60.

N81-16002

Krenz, G. and B. Ewald, "Transonic Wing Technology for Transport Aircraft," *AGARD Subsonic/Transonic Configuration Aerodynamics*, Sept. 1980, p. 12.

N81-16005

Holt, D.R. and B. Probert, "Some Particular Configuration Effects on a Thin Supercritical Variable Camber Wing," NTIS HC A19/MF A03, *AGARD Subsonic/Transonic Configuration Aerodynamics*, Sept. 1980, p. 18.

N81-16010

Levart, P., "Experimental Study of the Interaction Between the Wing of a Subsonic Aircraft and a Nacelle of a High By-Pass Ratio Engine," NTIS HC A19/MF A03, *AGARD Subsonic/Transonic Configuration Aerodynamics*, Sept. 1980. In French with an English summary.

N81-18030

Stanewsky, E. and H. Zimmer, "Development and Wind Tunnel Investigation of Three Supercritical Airfoil Profiles for Transport Aircraft," DGLR 74-100, 7th Jahrestagung, Kiel, West Germany, Sept. 17–19, 1974. Also available as NASA TM-75840, 1980.

N81-19001

Advanced Aerodynamics and Active Controls, 4th Annual Status Review of the NASA Aircraft Energy Efficiency (ACEE) Transport Program, Mountain View, CA, Oct. 7–9, 1980. Also available as NASA CP-2172, 1980.

N81-19003

Murrow, H.N., "Status and Future Plans of the Drones for Aerodynamic and Structural Testing (DAST) Program," *Advanced Aerodynamics and Active Controls*, Feb. 1981, pp. 21–36.

N81-19008

Flechner, S.G., J.C. Patterson, Jr., and P.G. Fournier, "Investigation of Powered Nacelles on a High Aspect Ratio NASA Supercritical Wing, Phase 2," *Advanced Aerodynamics and Active Controls*, Feb. 1981, pp. 105–122.

N81-19009

Jacobs, P.F. and D.W. Bartlett, "The EET Horizontal Tails Investigation and the EET Lateral Controls Investigation," *Advanced Aerodynamics and Active Controls*, Feb. 1981, pp. 123–133.

N81-19010

Steers, Louis L., "Natural Laminar Flow Flight Experiment," *Advanced Aerodynamics and Active Controls*, Feb. 1981, pp. 135–144.

N81-19013

Smith, R.C., "Advanced Turboprop Installation Aerodynamics," *Advanced Aerodynamics and Active Controls*, Feb. 1981, pp. 171–181.

N81-19025

Langhans, R.A. and S.G. Flechner, *Wind-Tunnel Investigation at Mach Numbers from 0.25 to 1.01 of a Transport Configuration Designed to Cruise at Near-Sonic Speeds*, NASA TM-X-2622, 1972.

N81-19104

Korkosz, G.J., "A Computerized Balancing Technique for Supercritical Helicopter Shafting," (AD-A095143; HH-80-223; USAAVRADCOM-TR-80-F-15), Dec. 1980.

N81-23047

Rizzetta, D.P. and H. Yoshihara, "Oscillating Supercritical Airfoils in the Transonic Regime with Viscous Interactions," *AGARD Boundary Layer Effects on Unsteady Airloads*, Feb. 1981.

N81-23054

Davis, S.S. "Experimental Studies of Scale Effects on Oscillating Airfoils at Transonic Speeds," *AGARD Boundary Layer Effects on Unsteady Airfoils*, Feb. 1981.

N81-24034

Jakob, H., K.D. Klevenhusen, and H. Struck, "Civil Component Program Wing Section. New Calculation Methods for Subsonic and Transonic Interference with Planar and Spatial Flows," (BMFT-FB-W-80-022), Sept. 1980. In German with an English summary.

N81-25432

Yates, E.C., Jr., E.C. Wynne, M.G. Farmer, and R.N. Desmarais, "Prediction of Transonic Flutter for a Supercritical Wing by Modified Strip Analysis and Comparison with Experiment," AIAA Dynamics Specialists Conference, Atlanta, GA, Apr. 9–10, 1981. Also available as NASA TM-83126.

N81-26040

Nebeck, H.E., A.R. Seebass, and H. Sobieczky, "Inviscid-Viscous Interactions in the Nearly Direct Design of Shock-Free Supercritical Airfoils," *AGARD Computation of Viscous-Inviscid Interactions*, Feb. 1981.

N81-27075

Wagner, O., "The Supercritical Profile of the Supercritical Wing," *Luft- und Raumfahrt*, Vol. 1, 4th quarter, 1980, pp. 105–106, 108, 109. Translated into English. Also available as NASA-TM-76605, 1980.

N81-28050

Guruswamy, P., "Aeroelastic Stability and Time Response Analysis of Conventional and Supercritical Airfoils in Transonic Flow by Time Integration Method," Ph.D. Thesis, 1980. Available: Univ. Microfilms Order No. 8113693.

N81-32116

Ayers, Theodore G. and J.B. Hallissy, *Historical Background and Design Evolution of the Transonic Aircraft Technology Supercritical Wing*, NASA TM-81356, 1981.

N81-32128

Harris, M.J., "Investigation of the Circulation Control Wing/Upper Surface Blowing High-Lift System on a Low Aspect Ratio Semispan Model," (AD-A103090; DTNSRDC/ASED-81/10), May 1981.

N81-70006

Steckel, D.K. and L.H. Jorgensen, *A Comparison of the Aerodynamic Characteristics of a Conventional and a Supercritical Wing Designed to the Same High Subsonic Cruise and Buffet-Onset Goals*, NASA TM-X-2898, 1973.

N82-10013

Inger, G.R., "Application of a Shock-Turbulent Boundary Layer Interaction Theory in Transonic Flow Field Analysis," (AD-A103244), Transonic Perspective: A Critique of Transonic Flow Research, Ames, CA, Feb. 18–20, 1981.

N82-11029

Couston, M., J.J. Angelini, and J.P. Meurze, "The Comparison Between the Unsteady Pressure Fields Calculated and Measured on the ZKP Model," (RAE-LIB-TRANS-2061; BR78139), AGARD 688, 50th Meeting of Structures and Materials Conference, Nov. 1980.

N82-11054

Haney, H.P. and R.M. Hicks, *A Comparison of Theoretical and Experimental Pressure Distributions for Two Advanced Fighter Wings*, NASA TM-81331, 1981.

N82-12031

Hassaneissa, A.A., "Subcritical and Supercritical Airfoils for Given Pressure Distribution," Ph.D. Thesis, 1981, Avail: Univ. Microfilms Order No. 8121930.

N82-13092

Laugher, R.D., "The Influence of Closed-Coupled, Rear Fuselage Mounted Nacelles on the Design of an Advanced High Speed Wing," NTIS HC A22/MF A03, *AGARD Aerodynamics of Power Plant Installation*, Sept. 1981.

N82-15015

Morgan, H.L., Jr. and J.W. Paulson, Jr., *Low-Speed Aerodynamic Performance of a High-Aspect-Ratio Supercritical-Wing Transport Model Equipped with Full-Span Slot and Part-Span Double-Slotted Flaps*, NASA TP-1580, 1979.

N82-15075

Byrdsong, T.A. and J.B. Hallissy, *Longitudinal and Lateral Static Stability and Control Characteristics of a 1/6-Scale Model of a Remotely Piloted Research Vehicle with a Supercritical Wing*, NASA TP-1360, 1979.

N82-17126

Jacobs, P.F., *Experimental Trim Drag Values for Conventional and Supercritical Wings*, M.S. Thesis, NASA TM-85345, 1981.

N82-17129

Houwink, R., A.N. Kraan, and R.J. Zwaan, "A Wind Tunnel Study of the Flutter Characteristics of a Supercritical Wing," (NLR-MP-81002-U), 22nd SDM/Dynamics Specialists Conference, Atlanta, GA, Apr. 6–10, 1981.

N82-19227

Yang, T.Y. and C.H. Chen, "Flutter and Time Response Analyses of Three Degree of Freedom Airfoils in Transonic Flow," (AD-A108987; AFWAL-TR-81-3103), Aug. 1981.

N82-20150

Harvey, W.D. and J.D. Pride, "NASA Langley Laminar Flow Control Airfoil Experiment," *Laminar Flow Control*, Mar. 1982, pp. 1–42.

N82-22209

Nagamatsu, H.T., W.B. Brower, Jr., L. Bahi, and J. Ross, *Investigation of Passive Shock Wave-Boundary Layer Control for Transonic Airfoil Drag Reduction*, NASA CR-168844, 1982.

N82-22224

Zwaan, R.J., "Aeroelastic Properties of Wings in Transonic Flow," (NLR-MP-81005-U), Unsteady Airloads and Aeroelastic Problems in Separated and Transonic Flow Conference, Rhode-St.-Genese, Belgium, Mar. 9–13 1981.

N82-23239

Ruhlin, C.L., F.J. Rauch, Jr., and C. Waters, "Transonic Flutter Study of a Wind-Tunnel Model of a Supercritical Wing with/without Winglet," 23rd AIAA/ASME/ASCE/AHS Structures, Structural Dynamics, and Materials Conference, New Orleans, LA, May 10–12, 1982. Also available as NASA TM-83279, 1982.

N82-24175

Hicks, R.M., *An Assessment of a Modified Potential Flow Code for Calculating the Effect of Small Geometric Change on the Pressure and Forces of Supercritical Airfoils*, NASA TM-84227, 1982.

N82-24185

Smith, J., "A Method for Determining Two Dimensional Wall Interference on an Airfoil from Measured Pressure Distributions Near the Walls and on the Model," (NLR-TR-81016-U), Jan. 1981.

N82-25214

Watson, J.J., *Elastic Deformation Effects on Aerodynamic Characteristics for a High-Aspect-Ratio Supercritical-Wing Model*, NASA TM-83286, 1982.

N82-28280

Eckstrom, Clinton V. and C.V. Spain, "Design Considerations and Experiences in the Use of Composite Material for an Aeroelastic Research Wing," AIAA 82-0678, AIAA/ASME/ASCH/AHS Structures, Structural Dynamics, and Materials Conference, New Orleans, LA, May 10–12, 1982. Also available as NASA TM-83291, 1982.

N82-30296

Koerner, H. and W. Puffert-Meissner, "Wind Tunnel Investigations on Thin Supercritical Airfoils in High Subsonic Flow," (DFVLR-FB-82-06), Feb. 1982. In German with an English summary.

N82-31303

Mann, M.J., C.E. Mercer, and R.L. Campbell, *Supercritical Maneuvering Fighter Configuration Wind-Tunnel Investigation at Mach Numbers of 0.60 to 0.95*, NASA TM-84513, 1982.

N82-33736

Yates, E.C., Jr., E.C. Wynne, and M.G. Farmer, *Measured and Calculated Effects of Angle of Attack on the Transonic Flutter of a Supercritical Wing*, NASA TM-83276, 1982.

N82-75521

Rauch, F.J. and C. Waters, *Tests and Analyses of a 1/6.5-Size Flutter Model of an Executive Jet Transport Supercritical Wing with/without Winglet, Part 1*, NASA CR-165857, 1978.

N82-77673

Ferris, J.C., *Wind-Tunnel Measurements of the Chordwise Pressure Distribution of a Model with a Modified 17-Percent Thick Supercritical Wing*, NASA TM-X-3275, 1975.

N83-10017

McCain, W.E., *Comparison of Analytical and Experimental Subsonic Steady and Unsteady Pressure Distributions for a High-Aspect-Ratio-Supercritical Wing Model with Oscillating Control Surfaces*, NASA TM-84490, 1982.

N83-11018

Jordan, F.L., Jr., *Investigation of Some Effects of Humidity on Aerodynamic Characteristics on a 10-Percent-Thick NASA Supercritical Airfoil*, NASA TM-X-3355, 1976.

N83-11019

Harris, C.D. and D.W. Bartlett, *Wind-Tunnel Investigation of Effects of Underwing Leading-Edge Vortex Generators of a Supercritical-Wing Research Airplane Configuration*, NASA TM-X-2471, 1972.

N83-11020

Harris, C.D. and James A. Blackwell, Jr., *Wind-Tunnel Investigation of Effects of Rear Upper Surface Modification on a NASA Supercritical Airfoil*, NASA TM-X-2454, 1972.

N83-11021

Bartlett, D.W. and C.D. Harris, *Effects of Wing Trailing-Edge Truncation Aerodynamic Characteristics of a NASA Supercritical-Wing Research Airplane Model*, NASA TM-X-3024, 1974.

N83-11022

Fournier, P.G. and K.W. Goodson, *Low-Speed Aerodynamic Characteristics of a 42° Swept High-Wing Model Having a Double-Slotted Flap System and a Supercritical Airfoil*, NASA TM-X-3036, 1974.

N83-11023

Boyden, R.P., *Dynamic Stability Characteristics in Pitch, Yaw, and Roll of a Supercritical-Wing Research Airplane Model*, NASA TM-X-2900, 1974.

N83-11024

Re, R.J., *Stability and Control Characteristics: Including Aileron Hinge Moments of a Model of a Supercritical-Wing Research Airplane*, NASA TM-X-2929, 1974.

N83-11025

McKinney, L.W., J.F. Herman, and L.A. Bodin, *Effect of Wing-Mounted Nacelles on a 42° Swept Supercritical Wing Configuration at Near-Sonic Speeds*, NASA TM-X-2954, 1974.

N83-11026

Harris, C.D., *Aerodynamic Characteristics of Two 10-Percent-Thick NASA Supercritical Airfoils with Different Upper Surface Curvature Distributions*, NASA TM-X-2977, 1974.

N83-11027

Ferris, J.C., *Wind-Tunnel Measurements of the Chordwise Pressure Distribution and Profile Drag of a Research Airplane Model Incorporating a 17-Percent-Thick Supercritical Wing*, NASA TM-X-2760 1973.

N83-11028

Ayers, Theodore G., *A Wind-Tunnel Investigation of the Application of the NASA Supercritical Airfoil to a Variable-Wing-Sweep Fighter Airplane*, NASA TM-X-2759, 1973.

N83-11029

Jordan, F.L., Jr., *Investigation at Near-Sonic Speed of Some Effects of Humidity on the Longitudinal Aerodynamic Characteristics of a NASA Supercritical Wing Research Airplane Model*, NASA TM-X-2618, 1972.

N83-11030

Fournier, P.G. and W.C. Sleeman, Jr., *Low-Speed Aerodynamic Characteristics of a Model Having a 42° Swept Low Wing with a Supercritical Airfoil, Double-Slotted Flaps, and a T-Tail*, NASA TM-X-2582, 1972.

N83-11031

Harris, C.D., *Aerodynamic Characteristics of an Improved 10-Percent-Thick NASA Supercritical Airfoil*, NASA TM-X-2978, 1974.

N83-11032

Bartlett, D.W., C.D. Harris, and T.C. Kelly, *Wind-Tunnel Development of Underwing Leading-Ledge Vortex Generators on a NASA Supercritical-Wing Research Wing-Airplane Configuration*, NASA TM-X-2808, 1973.

N83-11033

Fournier, P.G. and W.C. Sleeman, Jr., *Effects of Wing Height on Low-Speed Aerodynamic Characteristics of a Model Having a 42° Swept Wing, A Supercritical Airfoil, Double-Slotted Flaps, and a Low Tail*, NASA TM-X-2794, 1973.

N83-11034

McGhee, R.J. and G.J. Bingham, *Low-Speed Aerodynamic Characteristics of a 17-Percent-Thick Supercritical Airfoil Section, Including a Comparison Between Wind-Tunnel and Flight Data*, NASA TM-X-2571, 1972.

N83-11057

Pollock, N., "An Interferometric Investigation of the Near Design Point Flow over Supercritical Aerofoil BGK-1," (ARL/AERO-NOTE-405; AR-002-328; AD-A118894), Jan. 1982.

N83-11068

Noonan, K.W. and R.J. McGhee, *Low-Speed Aerodynamic Characteristics of a 9.3-Percent-Thick Supercritical Airfoil Section*, NASA TM-X-72763, 1982.

N83-11069

Bartlett, D.W., *Tabulated Pressure Measurements on an Executive-Type Jet Transport Model with a Supercritical Wing*, NASA TM-X-72701, 1975.

N83-11070

Bartlett, D.W., *Wind-Tunnel Investigation of Several High Aspect-Ratio Supercritical Wing Configurations on a Wide-Body-Type Fuselage*, NASA TM-X-71996, 1977.

N83-11071

Bartlett, D.W. and J.C. Patterson, Jr., "The NASA Supercritical-Wing Technology," CTOL Transport Technology Conference, Hampton, VA, Feb. 28–Mar. 3, 1978. Also available as NASA TM-78731, 1978.

N83-11073

Bartlett, D.W., *Effects of Differential and Symmetrical Aileron Deflection on the Aerodynamic Characteristics of a NASA Supercritical-Wing Research Airplane Model*, NASA TM-X-3231, 1975.

N83-11074

Ferris, J. C., *Static Aerodynamic Characteristics of a Model with a 17-Percent Thick Supercritical Wing*, NASA TM-X-2551, 1972.

N83-11075

Harris, C.D., *Aerodynamic Characteristics of the 10-Percent-Thick NASA Supercritical Airfoil 33 Designed for a Normal-Force Coefficient of 0.7*, NASA TM-X-72711, 1975.

N83-11077

Harris, C.D., *Aerodynamic Characteristics of a 14-Percent-Thick NASA Supercritical Airfoil Designed for a Normal-Force Coefficient of 0.7*, NASA TM-X-72712, 1975.

N83-11078

Harris, C.D., *Aerodynamic Characteristics of 10-Percent Thick NASA Supercritical Airfoils with Different Aft Camber*, NASA TM-X-72007, 1975.

N83-11079

Jernell, L.S., *Development of Two Supercritical Airfoils with a Thickness-to-Chord Ratio of 0.20 and Design Lift Coefficients of 0.3 and 0.4*, NASA TM-X-73948, 1976.

N83-11080

Harris, C.D. and D.O. Allison, *Comparison of Experimental and Theoretical Drag Characteristics for a 10-Percent-Thick Supercritical Airfoil Using a New Version of an Analysis Code*, NASA TM-X-74041, 1977.

N83-11081

Ferris, J.C., *Static Longitudinal Aerodynamic Characteristics of a Model with a Modified 17 Percent Thick Supercritical Wing*, NASA TM-X-3211, 1975.

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13. ABSTRACT (Maximum 200 words) A technical symposium, aircraft display dedication, and pilots' panel discussion were held on May 27, 1992, to commemorate the 20th anniversary of the first flights of the F-8 Digital Fly-By-Wire (DFBW) and Supercritical Wing (SCW) research aircraft. The symposium featured technical presentations by former key government and industry participants in the advocacy, design, aircraft modification, and flight research program activities. The DFBW and SCW technical contributions are cited. A dedication ceremony marked permanent display of both program aircraft. The panel discussion participants included eight of the eighteen research and test pilots who flew these experimental aircraft. Pilots' remarks include descriptions of their most memorable flight experiences. The report also includes a survey of the Gulf Air War, an after-dinner presentation by noted aerospace author and historian Dr. Richard Hallion.				
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